House & Garden

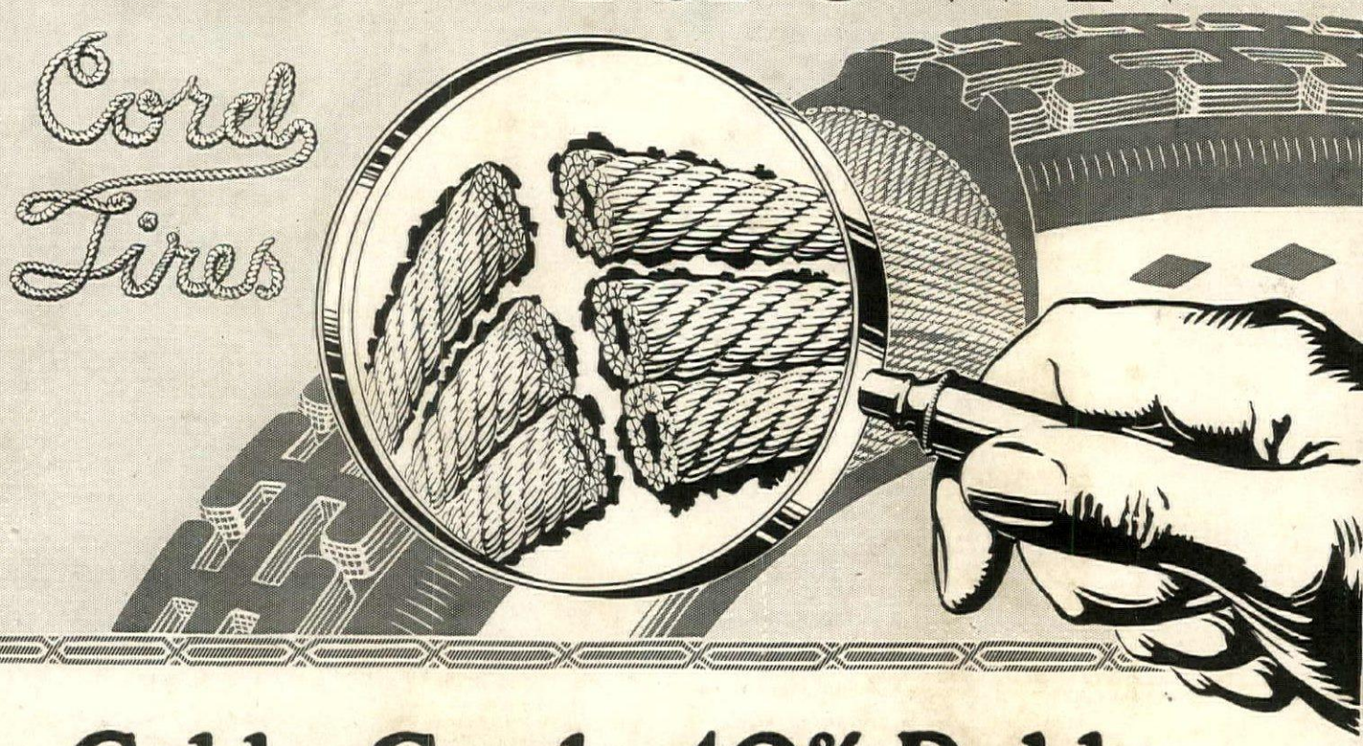
CIRCULATING
DISCARDED

GARDEN FURNISHING NUMBER

25 CENT

Fair List Prices — Fair Treatment

GOODRICH SILVERTOWN



Cable Cord–40% Rubber

Immune to Tire Fever

BEHOLD how *cord* and *rubber* are fused into the flexible, powerful *cable-cord* which forms the exclusive *patent-protected* body of a Silvertown tire. Note the *rubber core,* and how each *cord tendon* lies completely encased in a cushion of rubber.

Corded and cabled under high pressure, which replaces all air in the fiber with rubber gum, it is fused with rubber as a cobbler's wax end is waxed with wax.

That fusion of rubber and cord, *cool no matter how fast the tire whirls,* when cross-wrapped in the Silvertown's two-ply body, is the secret of Silvertown's IMMUNITY from TIRE-FEVER—the internal heat rubbed up between the plies of many-ply tires—the great destroyer of tires.

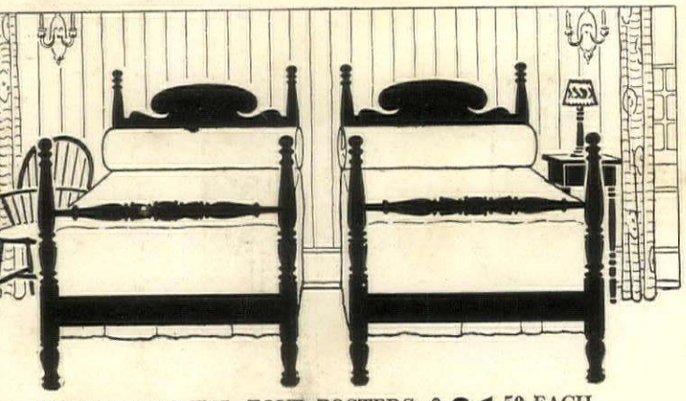
With but two plies of strong, cool cable cord—Silvertowns, trade marked with the *Red Double Diamond,* are bound to outlast and outserve many-ply tires with their multiplied tire fever.

Moreover they give a style, a smoother riding comfort and gasoline saving economy you can not afford to deny yourself.

THE B. F. GOODRICH COMPANY, *Akron, Ohio*

Goodrich also makes the famous Fabric Tires—Black Safety Treads

"Silvertown makes all cars high-grade"



THESE COLONIAL FOUR-POSTERS OF SOLID MAHOGANY ARE $21.50 EACH

YOU see how inexpensive good furniture can be. It has always been our contention that style leadership is the most valuable attribute of such a house as ours. And from the character of country houses and city apartments where our reproductions are found, it is clear that our patrons believe we have found how to combine correct designing and excellent materials with prices distinctly moderate.

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can be successfully transplanted in midsummer to add immediate beauty to your lawn. Winter or summer, their stately beauty and warm color make a picturesque outlook.

Use evergreens for seclusion, hiding unsightly views, small and large hedges. We ship 1000 miles and guarantee to grow. Send for catalog.

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re you desirous of increasing the variety of your stock? There are dozens of new breeds of fowl nich perhaps you have never heard of. Write to our Poultry Yard, stating in detail all your eds and requirements. Perhaps we can help supply your wants. House & Garden keeps in uch with the best breeders and dealers in poultry.

The Poultry Yard **House & Garden** *19 W. 44th St., N. Y.*

Write Today for This Free Book

Don't let summer's heat find you unprepared to protect your family against contaminated food. *Free yourself from* exorbitant ice bills! Read facts you should know about home refrigeration in this valuable 36-page book. Tells all about the famous

MONROE SOLID PORCELAIN REFRIGERATOR

with beautiful snow-white food compartments molded in one piece of genuine *solid porcelain ware, over an inch thick.* Every corner rounded. No cracks or crevices to harbor dirt or germs. They are clean and *stay* clean. Expertly built with air-tight walls. Preserves the food in clean, wholesome condition and *saves one-third and more on ice bills.*

Not sold in Stores—Shipped Direct From Factory—Freight Prepaid—Monthly Payments if Desired

Don't delay. Write at once.

MONROE REFRIGERATOR CO.
46 Benson St. Lockland, Ohio

Endorsed by Good Housekeeping Institute

30 Days' Home Trial

ICED TEA SET

This charming Service consists of 16 pieces in beautiful Rock Crystal effect, including 6 glasses and 6 spoons.

Complete $35.

Other Sets, $5 and upward.

This suggests the many novel, useful articles for the country house which are on display in this establishment, for thirty years devoted exclusively to China, Crystal and related wares.

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CHINA AND GLASS MERCHANTS
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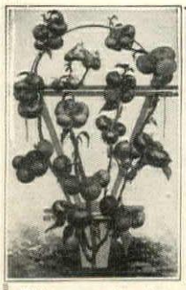
"Portrait of Mrs. Stoner" by Gainsborough Dupont (1754-1797)

TO THE DECORATOR

WHY not use an "Old Master" for the key note of decoration? It will determine the period, color and design of an harmonious composition. The above is one of a number of paintings in our galleries adapted to this purpose. We are always at your service.

The Ehrich Galleries

Dealers in "Old Masters" Exclusively **707 Fifth Ave. at 55th St., New York**



Foliage removed to show Beat-All support and perfect setting of fruit. The result of my methods. 35c each in 1-4 doz. lots.

YOU CAN

GROW TOMATOES LIKE THESE

a month earlier and a month later than your neighbor by following my instructions for forcing, pruning and staking and by the use of

Potter's Beat-All Plant Forces and Tomato Supports

The result of 30 years' experience in fancy fruit and vegetable gardening.

Usual crop may be doubled in quantity and quality. Start right and avoid disappointment. Do not delay. A 2c stamp will bring illustrated literature. Or, send 25c for book which will apply on future orders. Book free with all supplies.

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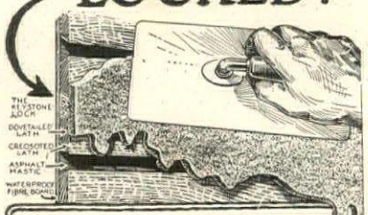

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—has increased the popularity of the Stucco-finished home, because it is the **one** background for stucco or cement that holds **without cracking or crumbling** as long as the house stands. Bishopric Board contains nothing that will corrode.

Get free sample and book "Built on The Wisdom of Ages."

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"For the Generations to Come"—32 pages of worth while information about roofs. Send for it today, whether you're thinking of roofing right now or not. Free for the asking.

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The standard rose-lover's manual. Library edition, 121 pages —16 in natural colors. Price, $1, postpaid. Includes coupon worth $1 on first $5 order for plants from our free catalog. Send today.

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Rose Specialists—Backed by 50 Years' Experience.

Ideal POWER LAWN MOWERS

Junior type for ordinary lawns, $225. **Roller and Riding** type for extensive lawns, parks, etc., $350 and $500. Write for full information.

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Old Chinese Paintings

Architects Building
101 Park Avenue *New York*

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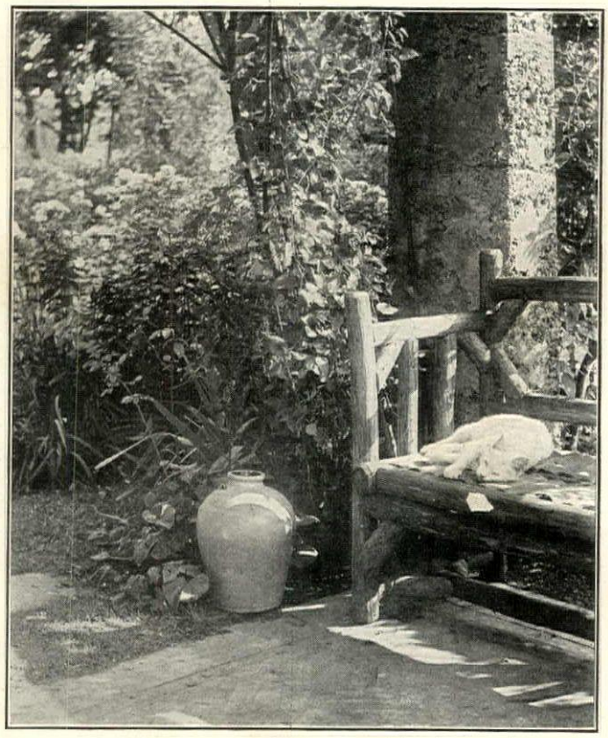
MEND IT TODAY 10¢



WHY NOT ASK HOUSE & GARDEN?

Never since the time of Adam and Eve has so much emphasis been laid on gardening. Never to the place reserved for growing things, from the estate of wide productive acres to the city backyard newly invested with tomatoes and lentils, has a like prestige been accorded.

This reversion to the soil is not entirely a bread-and-butter matter. It means, as you are already learning, all sorts of developments in the less practical aspects of gardening—floriculture, garden furnishings, landscape architecture.

To help you in any and all problems that may arise we place House & Garden at your disposal. Our experts are reliable, their services are free of charge. Do not hesitate to avail yourself of their co-operation. Send your gardening problems to

THE HOUSE & GARDEN INFORMATION SERVICE

Free Information Coupon

House & Garden, 19 *W. 44th Street, New York*

I would like to know more about the subjects checked below or those outlined in the letter attached. Please send me names of dealers in these articles and arrange for me to receive their illustrative matter.

..Arbors
..Bee Culture
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..Couch Hammocks
..Dahlias
..Door Knockers
..Fertilizers
..Flower Boxes
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..Fungicide
..Garden Hose
..Garden Pottery
..Garden Tools
..Gazing Globes
..Gladioli
..Grapes
..Grass Rugs
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..Insecticides
..Iron Seats
..Irrigation Systems
..Labels (plant, tree)
..Lattices
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..Tea Wagons
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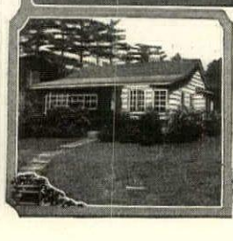

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ANNOUNCES the establish of a New York office at Hudson Street, in charge o Charles Allender.

Those interested in the ner System of Irrigation, in tricts suburban to New will be served thru this offi

Estimates and advice o watering problems is at service without obligation.

All fittings for the Sk System, including Lawn Sp lers, Complete Garden Sp ling Lines will be carried in at this office.

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THE SILENT PARTNER OF ARCH

"Good OAK FURNITURE is more proof' than any other equally fine cal

Its elegance, dignity and artistic ac are backed by its sturdy resistanc and scratches. (Really an import

"There is no finer heirloom than furniture." There is no more *safe* a investment—none better worth *ins*

AMERICAN OAK MFRS. ASSN. letters. Address 1414, 14 Main St., Me

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HERE is a handy to that will **positive** eliminate dandelions. Or eration removes top— **roots.** All metal—strong able. Easy to use. Stop tiring, unending work by

IT KILLS **Crado** WEEDS

$1.00 postpaid. Satisfa guaranteed. Will kill all of weeds without dam lawn. We make 40 hand and power Auto-Sp *Write for free "Spraying Gu*

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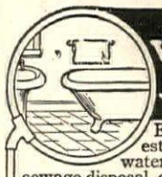

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Enjoy all the conven est modern homes— water anywhere, anytim sewage disposal, electric light, with a

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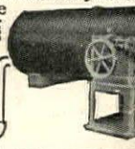
Simple, dependable, easy to install. satisfactory use. Let us refer you to users near you. Write for Bulletin *free*, telling about KEWANEE Special Features.



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FULLER & JO MOTOR LAWN which combines with capacity and the "push." Designed fo Cemeteries and Private Estates. Write book. **Manufacturers Distributing**
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OUR FOLDER illustrating the bes successful and largest line on the mar FREE. Write to-day and compare v

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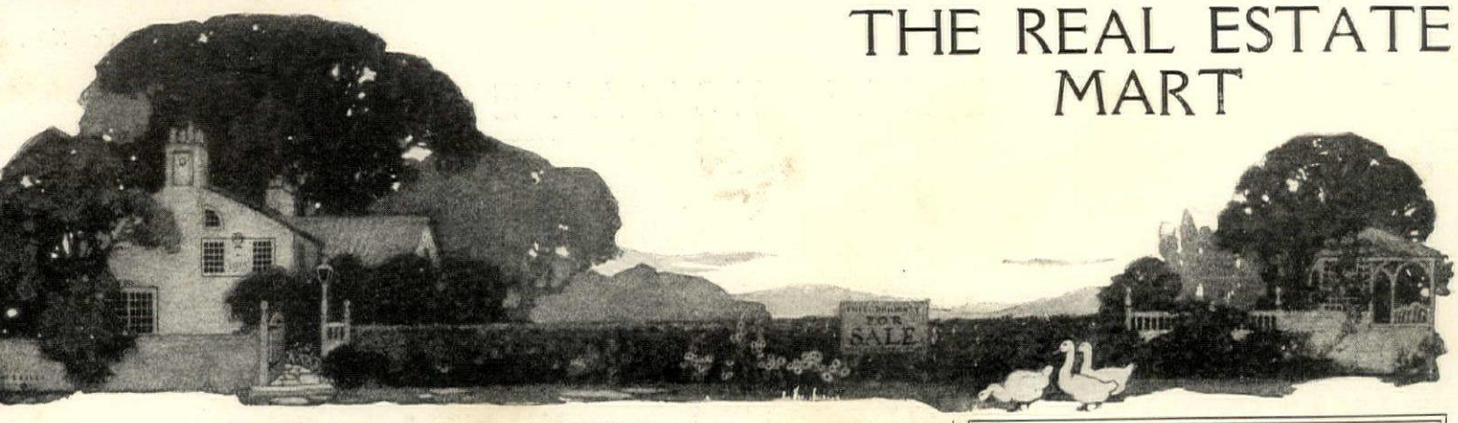

or Rent—A Modern Bungalow
Belgrade Lakes Region—Maine

our double bed-rooms, two single rooms r maids, two completely equipped bath oms, hot and cold water, large living om with open fireplace, kitchen, ex-nsive porch which can be converted into eeping porch.

e-house, garage for two cars with bed-om and running water. Boat-house ntains seven-passenger motor-boat; also w-boat and canoe.

ll household equipment, including bed nens, blankets, table linens, china, at sposal of tenant.

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ocated six miles from Oakland on the ar Harbor Express Route. On Salmon ake—one of chain of seven Belgrade akes.

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2 Acre Country Place
AT WEST ISLIP, L. I.

OVERLOOKING BAY AND WITH EXCLUSIVE DOCK AND BATHING PRIVILEGES

y House with 9 Bedrooms, 4 Baths, Hot Water Heat, Large ng Room, Open Fireplaces, Breakfast Porch, Sun Porch, ge Garden, Poultry House and Runs, Garage for 3 cars 1 2 men's rooms. *$25,000; could not be duplicated for $35,000*

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ARMS AND COUNTRY HOMES

68 Devonshire Street, Boston, Mass.

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ARM SHEETS
ACTS ON 150 FARMS

n $1300 to $20,000 SENT FREE POST PAID

GREAT NECK

ne of the most attractive homes on Long Island can w be purchased for $75,000 cash, which is at least 5,000 less than its actual value. Improvements alone st $65,000. Savings Bank loan of $50,000 can be cured if desired. Particulars on request.

AKER CROWELL, Inc., 47 W. 34th St.

Free Information

OUR Service will send you complete information about what to use in building or ecorating, remodeling or refurnishing your home

nformation Service, HOUSE & GARDEN, 19 West 44th St., N. Y.

Graham E. C. Root, Realty Agent
enox **"BERKSHIRE HILLS"** Mass.

Send List of Homes for Sale and Houses for Rent

To .....
. & G.]

CONFORMING to our customary policy of co-operation, we have recently inaugurated this new department for your convenience.

On file in this office there are many desirable properties of every conceivable description. Acting in the capacity of "Central," we will communicate your especial requirements to that party having a property corresponding to your needs.

Write us, describing as briefly as possible, your wishes.

M 1 For sale, a gentleman's farm, consisting of 3½ acres of well cultivated grounds with vegetable garden and a variety of fruit-bearing trees.
Newly built house (rubble stone) twelve rooms, all modern improvements, electric lighting and telephone connection. The stable and barn have facilities to accommodate both carriages and automobiles.
Easy accessibility to New York City. May be had furnished or unfurnished.

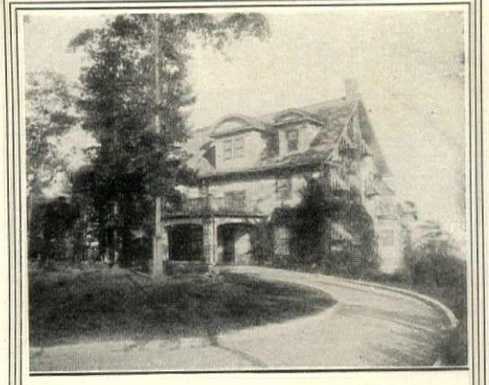
M 2 Wanted, a small, country place in Connecticut, Massachusetts or Northern New York. Place must have fine location, five to twenty acres, fruit bearing trees.

M 3 Plot offered for sale at Brightwaters, Bayshore in the Bay Section, less than 43 miles from New York, within (about one hour) easy commuting distance from Penn. station —express trains. Lot measures 50x140 ft. Ownership covers privileges to bathing pavillions, casino, yacht harbor, grand canal and motor stage to station. All improvements are accessible, even gas. Price is $1,500 for a cash sale.

M 4 For sale at Millington, New Jersey, a country estate, comprising of four acres of well cultivated grounds. Thirty miles from New York on D. L. & W. R. R. The residence of colonial architecture contains a large living room, dining room, butler's pantry, kitchen, pantry, laundry, five master's bedrooms, two baths, spacious closets. All modern improvements, including electric lights, hot air furnace and sanitary plumbing. The out-buildings consist of a two-car garage with chauffeur's quarters (steam heated), an ice house, also a house that could be remodelled into a tea house. Vegetable garden and an orchard with a variety of fruit bearing trees.

The Real Estate Mart—House & Garden

19 West 44th Street New York, N. Y.



AT MOUNTAIN LAKES, N. J.

In Midst of Beautiful Northern Jersey's Most Exclusive Colony

TO RENT

FIFTEEN ROOM RESIDENCE located on shore of lake with three acres of carefully laid out garden and lawn, 400 feet back from boulevard—superb view over lake and mountains. Ideal summer community—coolest country location near New York—fifty minutes by train from city—excellent motor roads. House located twelve minutes walk from D. L. & W. station—train service excellent.

House is of stucco construction, splendidly furnished throughout. Beautiful library, large main entrance hall and living room, dining room of choice finish, sun parlor, kitchen and butler's pantry, three master's bedrooms, two baths and boudoir on second floor, two maid's rooms with bath and one master's bedroom on third floor. Furnishings of entire house remarkably tasteful and complete. To rent from May 1st to October 1st. Address,

Box 202, c. o. House & Garden
19 West 44th Street, New York

MOUNT KISCO

We don't know it all—just merely this little zone with its hills, lakes, and valleys—the home of true aristocracy.

BUT WE KNOW EVERY INCH OF IT

Pleasantville, Chappaqua, Mt. Kisco, Bedford Hills, Bedford, Katonah, North and South Salem, Yorktown, Croton Lake, Lake Mahopac, Lake Waccabuc.

MOUNT KISCO ESTATES, Inc.

JOS. E. MERRIAM, Pres. CHAS. I. RISLEY, Manager
Phone 500 Mt. Kisco, N. Y. BROKERS PROTECTED

The Pivotal Point of the Berkshires

A gentlemans farm and apple orchard proposition of 537 acres, approved apple land on main line of the Boston and Albany and the Harlem Division of the N. Y. C. R. R., with direct express train service to and from New York. Also on a splendid auto road direct from New York to the farm.

General slope of land to south and east, the elevation ranging from 1200 to 1500 feet. New owners home and modern farm buildings with electricity and running water.

For sale with all stock and tools (new in 1916)

Best reasons for selling : : Details and photos on request

BRUCE & ROBERTSON R. C. ROBERTSON Successor **Pittsfield, Mass.**

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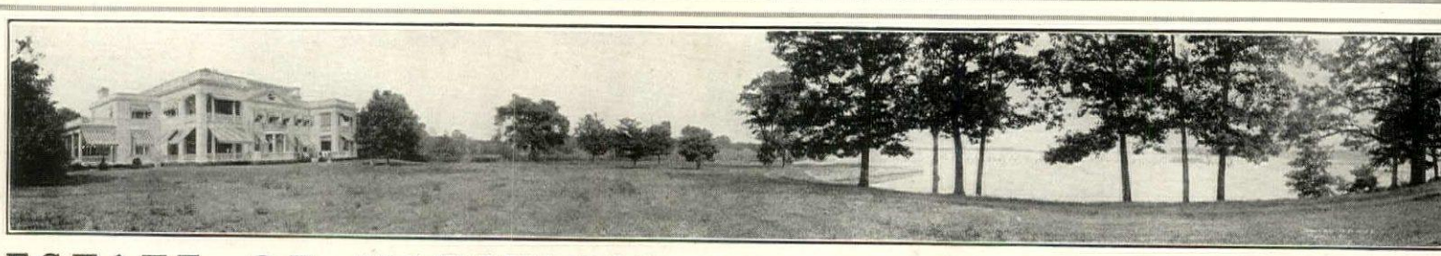


ESTATE OF MATCHLESS BEAUTY NEAR GREENWICH

MAGNIFICENT SHORE FRONT RESIDENCE FOR RENT FURNISHED OR FOR SALE

In all my experience in managing and selling Sound properties I have never before had the pleasure of offering a more beautiful and majestic dwelling, or a more commandingly located piece of property. I only trust that anyone reading this advertisement who seeks an estate of the very highest quality will not fail to visit this property and learn how wonderful it really is. The details below give but a meagre idea of its real worth.

THE RESIDENCE

is of the Colonial Georgian style of architecture, finished in old ivory and mahogany. It contains eight master's bedrooms, five master's bathrooms, three lavatories, ten maids' rooms, two maids' bathrooms, a large living room, library, reception hall, dining room, den, cloak room and service quarters.

THE SPECIAL FEATURES

are a refrigerating plant, service elevator, eleven fireplaces and a children's playhouse on the grounds.

TWENTY-FIVE ACRES

of beautiful grounds with an abundance of shade and attractively laid out flower-gardens: also, a garage (capacity five cars) with living quarters for the chauffeur and family.

ACCESSIBILITY

about two miles from the railroad station. Ex press train service (50 minutes to Grand Cen tral Terminal, N. Y. C.). The property has frontage of about 1100 feet on the water.

If not sold immediately, the property can be rented furnished for the season or for entire year. For terms and appointmen to inspect the premises, communicate with

LAURENCE TIMMONS 37 RAILROAD AVENUE, *Opposite the R. R. Station* Telephone 456 :: :: Write for my summer list **GREENWICH, CONN**

"BON VIEW"

This exceptionally fine property situated on the west bank of the North Shrewsbury River at Red Bank, New Jersey, is offered for sale or owner will rent for the season.

The residence on a plot 100′ x 500′, faces on a beautiful avenue and runs right down to the water. The river bank is high ground at this point, giving a splendid view and nice terrace.

The house is modern in every detail and of attractive design. Fourteen rooms, three baths; newly decorated and refinished throughout. Both city water and artesian well connections; nice lawns, trees and shrubbery; private dock, boat house and garage.

Splendid location—only five minutes from railroad station with excellent commuting service; within five minutes from boat connection to New York City. Convenient to all stores.

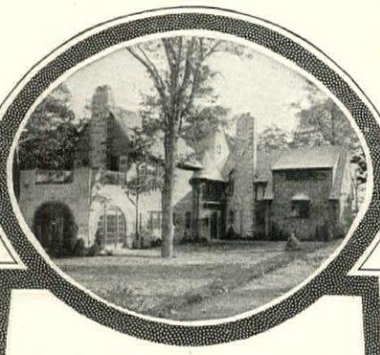
An ideal all year round residence and one of the most beautiful country places in New Jersey. The property may be purchased at this time at a bargain price.

For further particulars, photographs and appointment to inspect, address:

"BON VIEW" P. O. Box A. Red Bank, New Jersey

We offer in **Westchester County**
COUNTRY HOMES, FARMS, ESTATES
WHITE PLAINS, SCARSDALE, PLEASANTVILLE, KATONAH, BEDFORD, MT. KISCO Sections
at prices below their cost and present worth; also
FURNISHED and UNFURNISHED RENTALS

Clark, Lee, Tibbits Co., Inc. *39 years' experience* White Plains, N. Y.



A VISIT WILL CONVINCE YOU

BY short motor run via Spuyten Duyvil Parkway or by the New York Central to Riverdale or the subway to Van Cortlandt, you can reach Fieldston and judge for yourself of its attractions. It is the most accessible, desirable and attractive Suburban Colony in Greater New York. Every City convenience and all improvements.

Write for Folder "D."

DELAFIELD ESTATE
27 Cedar St., New York, N. Y.

At GREENWICH

Furnished Houses for the Season

Greenwich, Conn., 4 acres; House contains 11 rooms, 4 master's bedrooms, 2 baths; 3 servants' rooms, 1 bath; garage for 2 cars; rental, furnished, for season, $3,000. (148.)

Greenwich, Conn., 14 acres of high ground, with Sound and inland view; House contains 6 master's rooms and 5 baths; 4 servants' rooms and bath; library, 30 x 25; dining room, 25 x 25; garage for 2 cars, with room and bath; large vegetable and flower gardens; fruit; chickens; butter, milk from 6 cows; for rent, furnished for the season, $7,500. (275.)

Greenwich, Conn., Newly built Colonial House, on 2 acres, in exclusive Rock Ridge section; 7 master's bedrooms, 4 baths; 2 servants' rooms and bath. Garage for 3 cars, man's room above. Garden, sleeping porch. Convenient to station. For rent, furnished June 15th to Sept. 15th, $3,000. (103.)

Greenwich, Conn., In exclusive Belle Haven, with view of Sound; 3 acres, fine trees and gardens. House contains 8 master's rooms, 5 baths, 5 maids' rooms, 1 bath. Accommodations for horses and autos, with chauffeur's rooms. For rent, furnished, for the season, $5,000. This house has never been offered for rent before. (275.)

Greenwich, Conn., For rent, furnished. 100 acres; 6 master's rooms, 4 baths, 4 maids' rooms, 1 bath; garage and other buildings; cement road; beautiful open country; $5,000 for season; will sell. (138.)

Greenwich, Conn., Sound and country view; three acres of high ground, with trees, shrubbery and gardens; new stone house, contains 7 master's rooms, 5 baths, 4 maids' rooms and bath; furnished in exacting taste; garage with living apartments above; for rent for the season, $10,000. (229.)

LADD & NICHOLS
Real Estate
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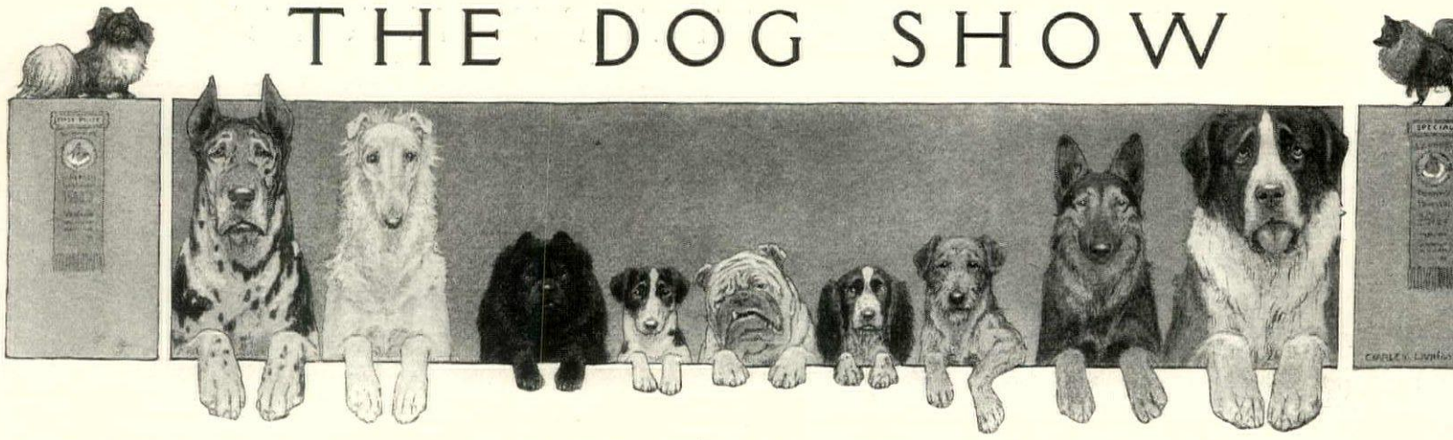

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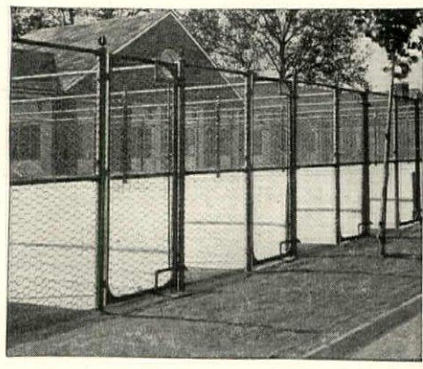

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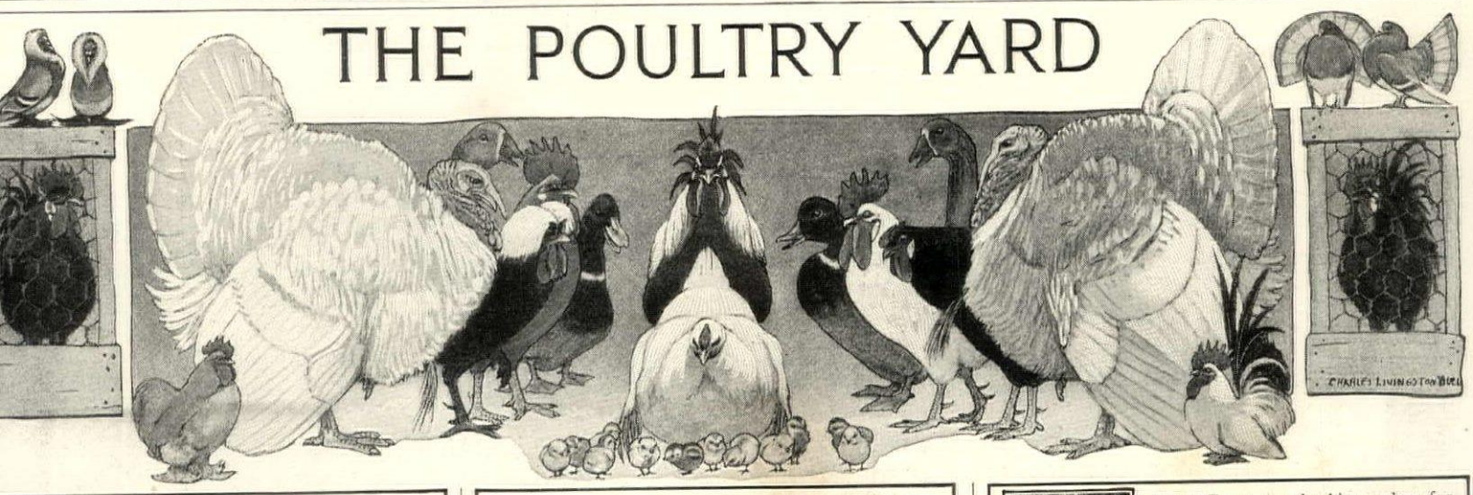

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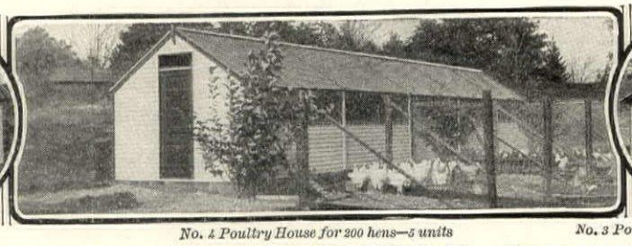

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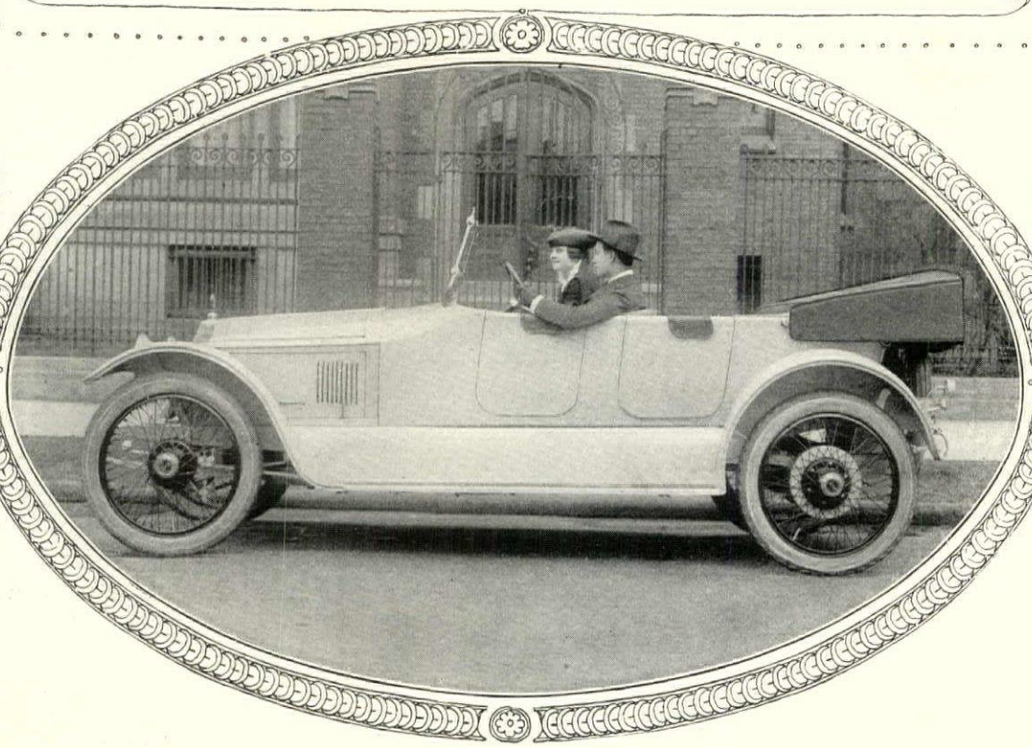

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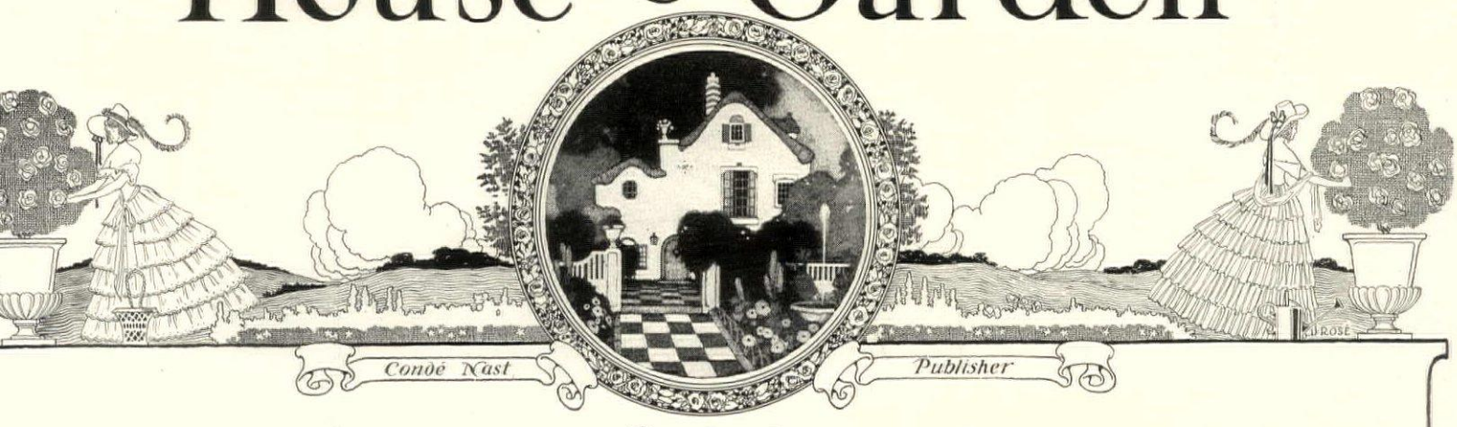

JUNE, 1917

Contents

VOL. XXXI, NO. SIX

Cover Design by Porter Woodruff
Frontispiece—Stairs Into the Sky 14
Putting the Farm on a War Footing 15
F. F. Rockwell
There's Nothing New Under the Sun in a Garden 18
Roses of Yellow and Roses of Gold 20
Georgia Torrey Drennan
Editorial 22
Out of Town, by Viola Brothers Shore
A Glimpse at "Weld" 23
Sword-Guards of Feudal Japan 24
Gardner Teall
On the Lawn, In the Garden 26
The Residence of J. Clarence Parsons, Esq., at Phoenixville, Pa. 28
William Copeland Furber, Architect
Country Cottage Under-curtains 29
Early Italian Wall Furniture 30
Abbot McClure and H. D. Eberlein
The Best White Flowers 32
Grace Tabor
The Sleeping Porch by Day and Night 35
Birdaline Bowdoin
Gods of the Garden Come Out Again 36
Country House Water Systems 37
Charles Edward Hooper
The Residence of Henry R. Swartley, Jr., Esq., Great Neck, L. I. 38
A Little Portfolio of Good Interiors 39
Green Lawns and Grass Seed for Every State 42
Hugh Smith
The Gate Inside the House 44
The Decorator as Author 45
The Final Touch to the Landscape Scheme 46
Robert S. Lemmon
Defining Colonial Architecture 48
William B. Bragdon
Convenient Devices for the House 50
The Gardener's Kalendar 51
Seen in the Shops 52
In the Hot Weather Trenches 54
D. R. Edson
Tennis Courts for Sensible Service 55
Robert Stell

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THE SMALL HOUSE NUMBER

THE Small House Number is based on the theory that good goods come in little packages.

Heretofore, the small house has universally been considered the cheap house. Because it was small and because it was cheap, it could be forgiven many lapses of good taste in its architecture and its furnishing. This fallacy will soon be exploded. Good taste is fast becoming common property and the man who does not exercise it in the construction and decoration of his little house, will soon enough be taboo. The small house should be a miniature of a big house, a simplification of a larger and more elaborate house, and the same discrimination that is employed in furnishing the expensive homes should be exercised in furnishing these palaces *in parvo*.

The Colonial house, always a popular type, will be shown in varied forms in the July issue

Here, then, are *good* small houses, good interiors for small houses from which the prospective home builder can take her choice.

An article on "The Stucco House" will consider that type—the most feasible for the money. "Small House Living Rooms" takes up the inside story. So does the article on using up waste corners for closets that really hold things.

Many types of houses will be shown and many localities represented—stucco houses from a dozen different states, half timber houses, Colonial houses, portable houses, bungalows from California.

The main feature of this issue will be three houses especially designed for this issue of House & Garden, by Aymar Embury II, Eugene J. Lang and Frank Chouteau Brown. Plans, elevations and specifications will be shown so that the finished house can readily be visualized. The three architects making this contribution are well known for their work on small houses. House & Garden has never made so valuable an offering to its readers.

Of the many gardening articles, space permits mention of only two: "The Old-Fashioned Garden," a universally popular type, and Grace Tabor's story of "The Best Blue Flowers." They are both up to the high standard set by House & Garden gardening contributors—both make you *want* to make a garden and both tell you how to *make* it.

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BUCKLY

STAIRS INTO THE SKY

Garden paths are one thing, garden steps another. Paths wind and wind. They flow whither they will, like capricious brooks, between flowery banks, dart under trellises that span the stream for honeysuckle and rose, and lead out into the infinity of some hay-scented meadow. But garden steps are always steps. Direct, resolute, persistent, they go toward their destination, leading from height to height like stairs into the sky. And this is true whether they are on a formal estate or in the tangle of an old-fashioned garden such as this, at the residence of Richard Arnold Fisher, Esq., Newburyport, Mass.

UTTING THE FARM ON A WAR FOOTING

The Food Supply for Ourselves and Our Allies—What We Have Done and What We Can Do to Increase Our Food Output

F. F. ROCKWELL

HE destinies of the nations of the world may be hanging by the micro-ic threads of *Phytophthora infestans!* hese two formidable words, translated the language of the Irish potato, mean blight, the disease which last year upset calculations of the German Government lestroying a large percentage of the po-crop. To say that the potato will decide war may be exaggerating, but there is e doubt that food, rather than gunpow- will ultimately be the determining fac- in conferring the laurels of victory. h modern methods of transportation communication, national organization war becomes such an intricate and far-ching thing that every last individual able of contributing to the national wel-e is reached by it. And in every nation the ny at the front and the army behind front, the workers at home, must supplied with three meals a day.

Abroad every government that has ered the war, with the possible ex-tion of Germany, has been slow to ognize the importance of the food ply. Today this question is loom- up as the most gigantic of those ich will demand immediate atten-n. It is for us a problem not only feeding ourselves but those with om we are making common cause. Recognition of the seriousness of problem has brought forth many nemes from organizations and in-viduals. At the Conference for ricultural Preparedness, held at ashington early in April by the Na-nal Agricultural Society, there were nost as many plans as speakers. ey ranged all the way from the or-nization of local societies to utilize ery back yard for vegetable planting plans for wholesale government eration by putting the farmers on e government pay-roll, either direct- or indirectly by the guarantee of a inimum price for crops.

Agricultural Progress

My purpose in this article, however, not to rehearse the various plans hich have been proposed, but rather sketch the lines of agricultural prog-ss which have been followed during e past few years, and to suggest how still further developments are possible

In much of the work which has been done there is great potential value, but the information has not yet been put to use. Many of the discoveries are not generally known. It has taken a time of crisis to put us on our mettle as an agricultural nation. Yet it is only fair to say that it is not the farmer's fault that he has been slow to adopt the new methods which the government has placed at his disposal. Time after time the farmer has grown big crops, only to receive for them prices so low as to leave him without profit—often, indeed, with actual loss. We have given the farmers as a producing class every incentive to grow small crops rather than big—and have paid them much more for the lesser than for the greater service.

The problem of making two blades of grass grow where one grew before is a very complicated one, and little will have been gained if in the solution it costs as much to produce the second blade as it did to produce the first.

The average person thinks of the problem of increasing crop yields as one to be solved by a long nosed chemist with a new fertilizer or by some wizard of horticulture who will outwit Nature and trick her into growing a cabbage plant with two heads or a stalk of corn with six ears.

As a matter of fact, however, the business of insuring higher crop production is a slow and painstaking process. All the factors involved must be considered and developed together, for while concentration on one aspect alone may result in discoveries very interesting from a scientific point of view, it will fall short of bringing about an increase for the demands occasioned by war-time.

Biology and Increased Production

Probably the most important of the various lines of intensive effort—certainly the most interesting from the layman's point of view—is that of improvement by breeding and selection. The biologist has played and must continue to play a leading rôle in making this country economically independent. His position is an important one, for in spite of our gigantic industrial corporations and our "war brides," nearly 70% of our total national wealth is in agriculture—land, buildings and live stock.

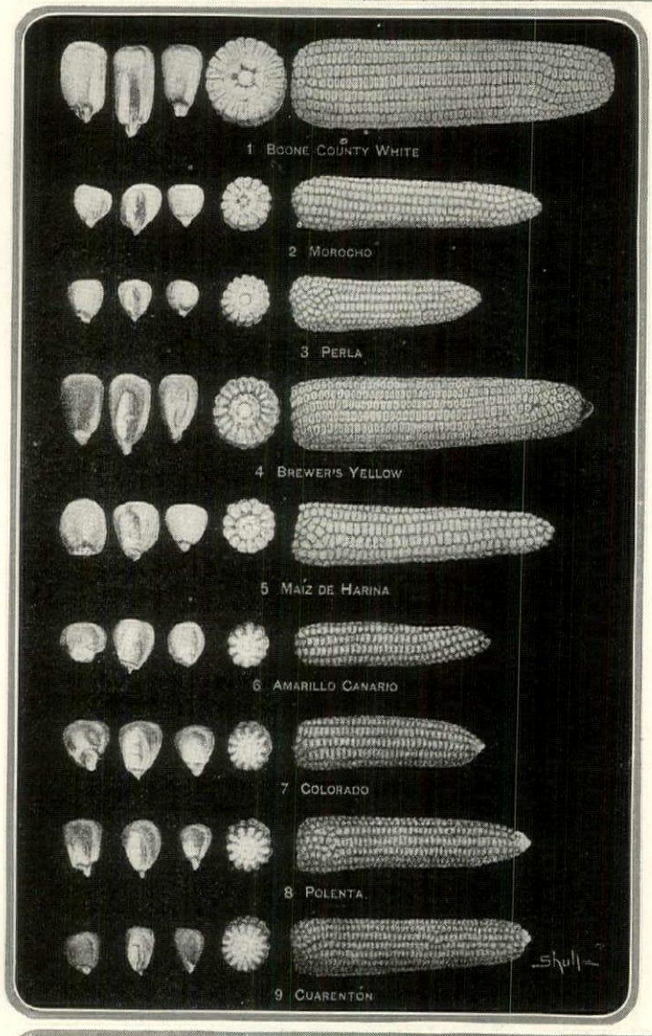
Let us look at our king crop—corn. A glance at the accompanying photograph will show what the biologist has done with this crop. (Incidentally the biologist usually did not call himself by that name. He worked in a pair of overalls out in a field, and was known by all his neighbors as a good farmer who was something of a crank on selecting seed!) In that photograph the biggest ears of yellow Dent corn are representative of two varieties largely grown in this country. The corn crop is a serious business with us. It occupies over 29% of the land given up to crop production. In 1915 we grew over 3,050,000,000 bushels,

from
The PRESIDENT'S MESSAGE

Upon the farmers of this country . . . . in large measure rests the fate of the war and the fate of the nations. May the nation not count upon them to omit no step that will increase the production of their land or that will bring about the most effectual co-operation in the sale and distribution of their products? The time is short. It is of the most imperative importance that everything possible be done, and done immediately, to make sure of large harvests. I call upon young men and old alike and upon the ablebodied boys of the land to accept and act upon this duty—to turn in hosts to the farms and make certain that no pains and no labor is lacking in this great matter. . . .

Let me suggest, also, that every one who creates or cultivates a garden helps, and helps greatly, to solve the problem of the feeding of the nations.

WOODROW WILSON.

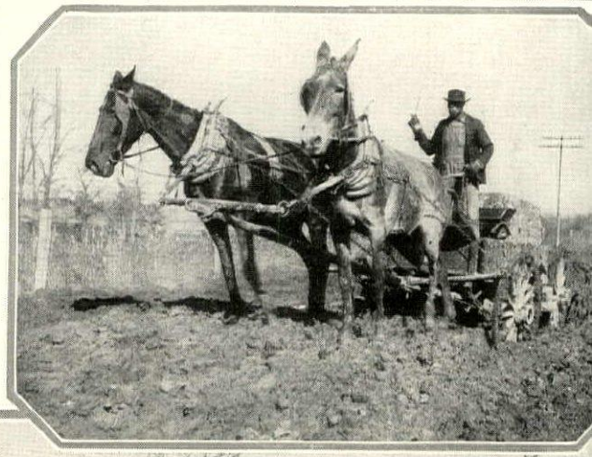


Corn clubs for farm boys started by the government have stimulated good cultivation and produced larger crops because the men compete with the boys. Sherman Hall (above) raised 107.33 bushels of corn on an acre in Arkansas where the average crop is only 20 bushels

Good crops depend fundamentally on good seed. One of the best things the government has accomplished is raising the standard of corn. Compare American varieties with South American

The one-man tractor which has recently come on the market will help solve plowing and cultivation on the small farm. The farmer merely guides the machine down the furrow

Bad roads have been a serious deterrent to farm success and the marketing of crops. The two views, to right and below, show a stretch of Tennesee road before and after improvements. It is in the South, incidentally, that the greatest strides have been made along these lines



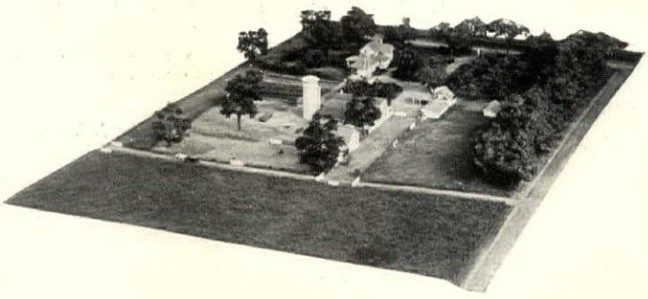
about 30 bushels per capita. hese figures need cause us no -congratulation when we con- r that the average production the ten year period 1906-1915 only a little over 26½ bushels acre. The main reason why yield was no larger was that American farmer realized from rs of experience—though he may have expressed the idea in terms conomics—that it would not pay to go to any additional expense ncreasing the production.

An instructive story is that of the e boy in the photograph on page He planted and cared for his p according to advice given him Government official, and secured a yield no less than 107.33 bushels per acre. This of course, an extraordinary case. The rage crop produced by boys in his state here, by the way, corn is not a leading p but one of the most neglected—was r 50 bushels per acre. The average yield the adult farmers of the state was about bushels per acre!

This work has not stopped with the boys. Culpeper County, Virginia, where the rage crop of corn was 21 bushels, a nonstration of the county agent during first four years' work covered 1160 es, and secured an average yield of 7 bushels per acre. Of the forty- ht boys enrolled for corn club work for 14, thirty-seven reported, the average p being 75.7 bushels per acre. A mer who has watched this work from beginning says, "It has done the men re good than the boys, because while parently not paying any attention to the ys' corn club they are trying, as hard as y know how, to beat the crop the boys ke. Today in traveling over the country e sees everywhere well selected ears of n hanging in cribs, barns, porches and chens—a rare sight five years ago."

Improving Crop Varieties

Selection and cross breeding have proced wonderful results in improving ains of wheat and many other grains and grasses as well as vegetables. Work along this line is by no means confined to making two blades grow where one grew before. The work of the plant breeder is oftentimes to get one blade where none grew before. Most interesting work has been done with the drought resisting plants, for example. Important results have been achieved with soy beans, milo maize, sorghum and a number of other crops. Equally important has been the introduction by the Department at Washington of a number of plants not formerly in general cultivation, but particularly suited to dry climates or other unusual conditions.



Another factor in farm success is the right sort of buildings properly placed. The government sends through the rural districts models of a modern farm with full instructions for the farmer

Increasing production through improved strains or varieties has not been limited to plant life. Just as valuable work has been done in the breeding of live stock and poultry. "Scrub" cattle, hogs and chickens are still in the majority in most agricultural sections; but their time has come and slowly but surely they are being replaced by thorough lines of stock well adapted to their locality. Especially in the South great progress has been made during recent years.

Few people realize the tremendous importance of this kind of work, until they make some such comparison as, for example, that of the average cow with her 3,100 pounds of milk and the belle of California, Tillie Alcartra, who gave in her record year 30,000 pounds. Of course, that is a record we cannot hope to approach under ordinary conditions, but there is no doubt that the production per cow could at least be doubled within a few years, if a campaign for that purpose were to be inaugurated with the thoroughness with which the Government is taking hold of the munitions supply for Army and Navy. Then there is the steel-spring legged, rubber-breasted hen that lays 60 eggs a year, compared to the 312 eggs laid by Lady Eglantine in making her year's record. If our hens were divided according to measurements known to indicate laying capacity, those that did not qualify being used for the table, the production per hen could easily be doubled. Feed and care alone are not sufficient for large egg fields.

Good Methods as Important as Good Varieties

The wonderful results mentioned in the case of corn crops were due largely to the introduction of better varieties than were formerly used in each case. Along with the better varieties went better methods of culture. We in this country like to preen ourselves upon being a great agricultural nation. We are—but let us look for a minute at the following table which is of particular interest at this present time when the country with which we are at war supplies the "odious comparison."

Average Increase in Crop Yields in Twenty Years.

	United States	*Germany*
Wheat	2 bu.	10 bu.
Oats	4 bu.	23 bu.
Rye	4 bu.	12 bu.
Barley	2 bu.	13 bu.
Potatoes	23 bu.	80 bu.
Average	20 bu.	62 bu.

Not a pleasant pill for our national pride to swallow! However, there are extenuating circumstances. We have been farming extensively while Germany has been farming intensively.

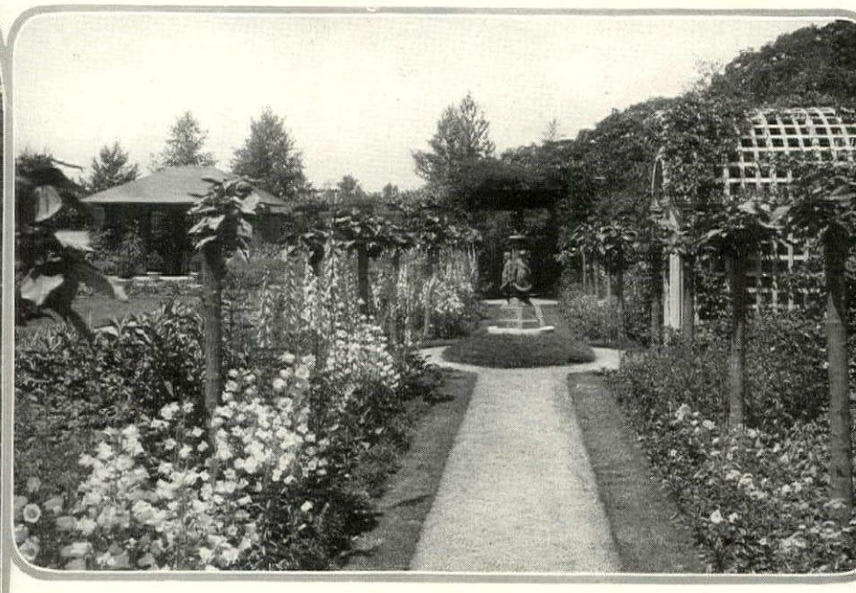
While each person engaged in agriculture in Germany has had to take care of 4.1

(*Continued on page* 78)

What corn clubs are doing for the farm boys, canning clubs are accomplishing with the farm girls. A government agent instructs the girls and oversees their work

THERE'S NOTHING NEW UNDER THE SUN IN A GARDEN

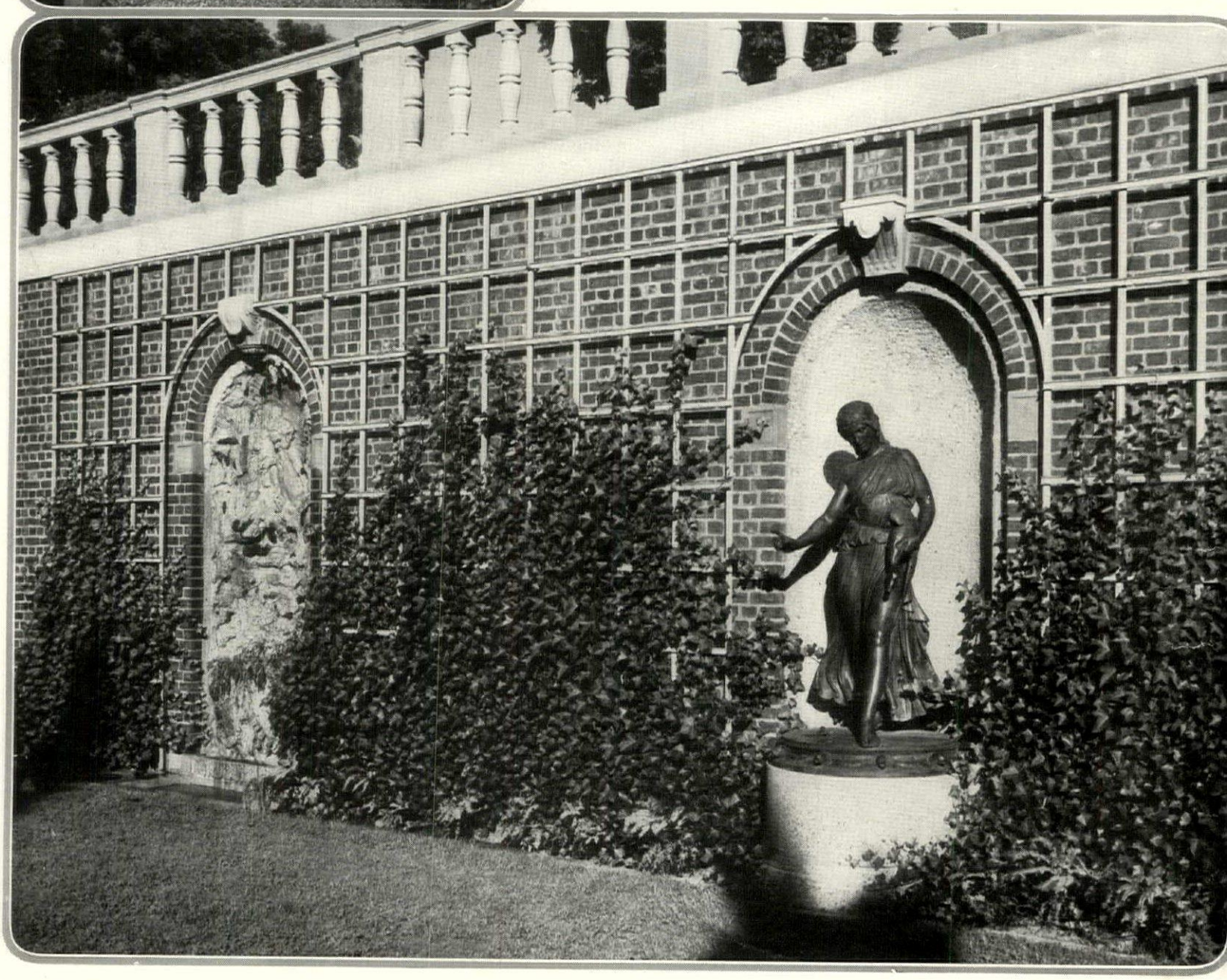
Photographs by J. W. Gillies and M. H. Northend

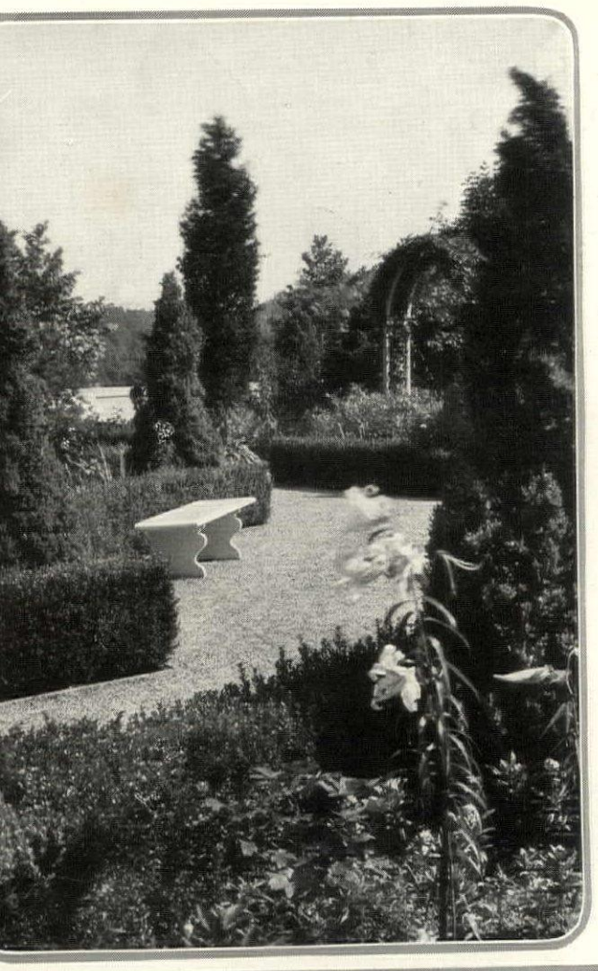


The trellised garden (left) has the flavor of prim pathed gardens of yesterday. Charles A. Platt, architect

A New England garden made last year but reminiscent of three generations ago. Kilham & Hopkins, architects

Another year, and the niched trellised garden wall below will look a hundred years old. James L. Greenleaf, architec





Box bordered and rose arched — these were the gardens of yesterday. And the newest gardens are just a reflection of the past. Charles A. Platt, architect

Imagine yourself in an English garden close. You really are in the garden of Mrs. Harry Payne Whitney at Old Westbury, L. I. Delano & Aldrich were the architects

Below is still a third view of the new old-fashioned garden. This would have been considered ideal a hundred years or so ago —and still is

ROSES OF YELLOW AND ROSES OF GOLD

Find their Garden Places where Stronger Colors Would Not Serve

GEORGIA TORREY DRENNAN

One of the finest of all roses of whatever color is Kaiserin Augusta Victoria, a lemon-white hybrid tea

To the yellow Scotch briar one looks for an abundance of charmingly simple blossoms. The bushes are hardy, low growing and compact

Marechal Niel presents rare combination of sup blooms of great fragra borne on a climbing b

OFFHAND, what color subconsciously suggests itself to you when someone mentions roses? Pink or red, isn't it?—"red as a rose," you know. At any rate, I don't believe it is yellow, unless some particular association has fixed that color in your mind. Yet roses do come in yellow, and though their presence in the garden is relatively uncommon, there are settings in which their various shades are far preferable to the stronger pinks and reds, or even to the pure whites and flesh tints.

There are yellow roses and yellow roses, to be sure. They are fewer in number than those of any other single color, yet more numerous than any one garden requires.

The Maman Cochet group is strikingly hardy. The five colors — white, pink, red of two shades, and yellow— are alike in strength, vigor and perfect beauty. They are persistent bloomers from spring till the last cold autumn days; and they merit their reputation of being the most distinguished group of roses of recent years in Europe and America. Perhaps the most distinct and beautiful of the whole group is Yellow Maman Cochet.

The Cochet and Other Yellows

The positive statement has been made that of the hundreds of roses available in this country the Cochets are the best. This does not quite coincide with my own opinion which is based upon the roses as they bloom in my own and my friends' gardens. Not that I dispute one word of praise for the Cochet roses. They deserve all that can be said in their favor—and even more than has yet been said in praise of the clear, deep, golden Yellow Maman Cochet—but I would not accord them undivided meed of praise in all respects.

There are other constant, hardy, free and beautiful yellow roses, closely in competition with the Cochets. Everybody knows Kaiserin Augusta Victoria as the hardiest of all the hybrid teas, and also as one of the most perfectly beautiful creamy white roses in existence. But perhaps everybody is not yet well acquainted with the more recent Yellow Kaiserin Augusta Victoria, or Perle von Godesberg. It is a superb yellow rose of clear canary shading to saffron. It has all the good points of Kaiserin Augusta Victoria and in my estimation is almost as fine as the Yellow Cochet. The differences of shades of yellow in the two roses make pleasing variety, on the bush as well as in the vase. The Cochet roses are hardy everywhere if given some protection. The same may safely be said of the Kaiserin Augusta Victoria and Perle von Godesberg. They are so hardy, vigorous, and free in habit, that I wonder why both groups are not recognized as hybrid teas.

Another good yellow is Etoile de Lyon, a very beautiful tea rose. It is much more hardy than the equally beautiful variety known as Perle de Jardins.

The teas and hybrid teas now number over forty handsome roses in all shades of yellow, except deep orange. William Allen Richardson, the climbing tea, is the only deep orange except the Persian Yellow rose. It is several shades deeper than Marechal Niel, which is a clear cloth-of-gold yellow, and is a free flowering and beautiful rose at all seasons, though excelling itself in autumn. The orange yellow, by the law of the radiation of heat, intensifies and deepens as summer wanes and the nights grow frosty and cold; the roses, rop and garlanded by hundreds and hu dreds, are more and more striking a effective until the killing cold weath comes and ends their season.

The Hardiest Sorts

The very hardiest yellow roses, su as are free and florescent in far nort ern sections, are spring or early sum mer bloomers. The yellow rambl Aglaia, is a deep yellow, of free a hardy growth and for six weeks a mo wonderful bloomer. One thing in fav of this and other once-blooming ros is that for their brief season of flowe ing they are much more profuse th the constant bloomers, for their r sources are drawn upon for all t roses of the year at one and the sar time. Aglaia is as profuse as the cri son rambler and in all essentials t same rose except in color.

It would hardly be just to the ro family and certainly not fair treatme to those interested in reports from t fairy land of sun-gold roses, to om the almost forgotten Austrian, the Pe sian Yellow and Harrison's Yello These are regarded as fine flowers, ve hardy and long-lived; but so many ne and attractive roses of improved strai are engaging attention that the Au trian and Persian are not generall known and grown.

Of the trio, Harrison's Yellow is the mo common. It is a light primrose yellow an single flowered. It bears a resemblance t the sweet briars, but the russet glands o the under side of the leaves do not secret the aromatic oil that imparts the fragranc of the latter.

Harrison's Yellow has no fragrance o foliage and not much perfume of flowe Its single blossoms are as light and airy a butterflies — I remember their bloomin early in the spring with daffodils and jon quils. All about were peach trees in thei own shade of pink; sweet scented plun trees in snowy white; and dogwood, re bud and maple making the wild woods gay Yes, this rose was one of the component of all gardens of the Old South.

Persian Yellow was long considered th deepest yellow rose in cultivation. It ha more substance than Harrison's, and is of a deep chrome yellow. The two roses com and go together, blooming for a period of about four weeks.

The Austrian Yellow stands one as regards color. The culiar coppery red of the inle of the single cup-shaped se, combined with the pure ld of the outside, has no duplite among roses or any other wer. Like the others of this io, it is a wreath rose, bloomg at short intervals along the ailing branches. Fountain like, ching its branches, dipping its s to the green earth on a bright nshiny day, the striking brilncy of this unique briar of dian red and gold will catch d hold the attention of even e most casual observer.

None of these roses propates well from cuttings. The ersian and Austrian are budded on Manetti or other hardy ock, but Harrison's Yellow reroduces itself by scions. Alough single flowered, with poln laden stigmas, it is a very y seed bearer; yet it has the istinction of being one of the eed parents of Lord Penzance, e only yellow rose among the Lord Penance hybrid sweet briars. It is the result f the cross between Harrison's Yellow and weet briar Simplex. Its primrose yellow inherited from one parent and the sweet cented foliage from the others.

Salmon is as much pink as yellow. Gloire e Dijon is distinctly salmon, beautiful in ink and yellow with blendings of interediate tints; nevertheless the full blown oses are frequently pure golden yellow. t is the most conspicuous example in the vorld of one rose very much more hardy han any other of the numerous roses of its class. Just what is the reason for this we cannot be sure, but the fact remains.

In Harrison's yellow is much of the charm of the Old South—a hospitable simplicity that the larger roses lack

The color of a rose makes no difference in its mode of culture. A rose is a rose no matter what its kind or where it grows. The class to which the majority of yellow roses belongs is not entirely hardy north of Baltimore or Washington. Some protection must be given, but whether for better or worse depends upon several things. First, the roses ought to be prepared to meet the cold of winter by having water and stimulating culture withdrawn during late summer and early autumn. This tends to check new and tender growth and to harden the wood. Then they had better stand cold enough to show visible effect, than to be put under a protective cover too early in the season.

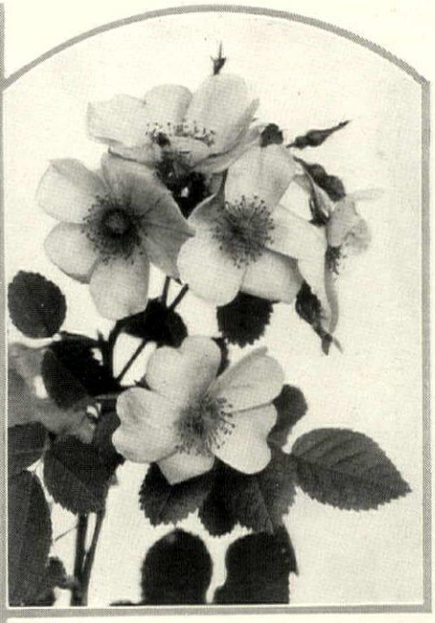
When the weather forecast is for severe cold, is the time to cover roses. They are then dormant and will remain so until spring. Some ventilation is essential through whatever material the covering consists of; this is one reason why evergreen boughs are so popular as protective agencies.

As important as anything pertaining to winter protection is not to uncover too early in the spring. Warm waves are followed by cold, and having been covered, roses are more injured than benefited by exposure to the inviting sunny weather of early spring.

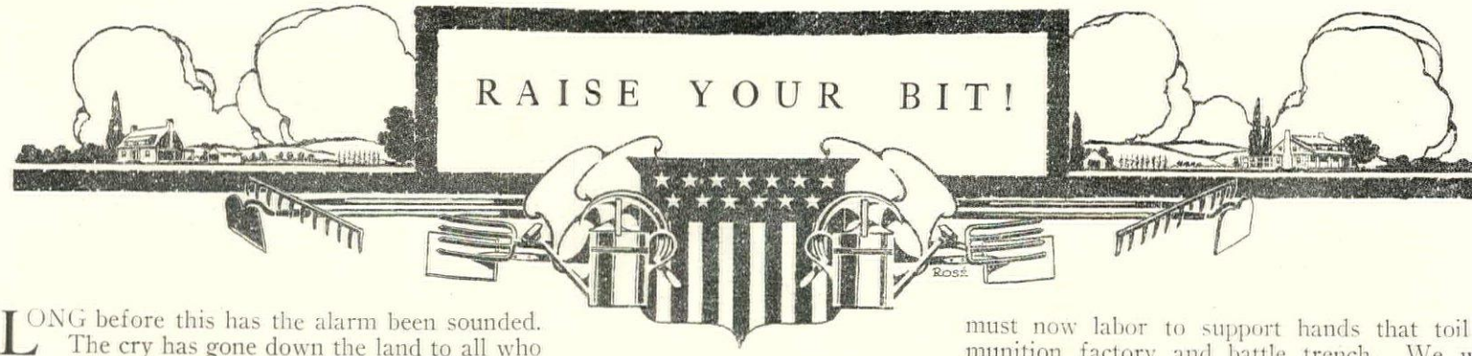
Winter is winter, even in the orange belt. There are climatic differences, north and south, to which roses must be adapted. Cold in the north is settled and consistent; in the south, fickle and capricious. The warm blanket of snow covers the northern gardens safely through the winter. In southern gardens, growth is induced by warm waves all winter long, and the succeeding cold waves make the plants suffer proportionately and sometimes seriously.

Aglaia is one of the hardiest of all, a deep yellow rambler that blooms profusely for six weeks or so

Persian Yellow and Harrison's Yellow bloom at the same time. The former, however, is a deep chrome yellow and more substantial in appearance



Lord Penzance is descended from Harrison's Yellow. Its color is a soft fawn, shading to lemon yellow in the center, and sometimes tinged with pink



LONG before this has the alarm been sounded. The cry has gone down the land to all who labor in the fields, "Raise your bit!"

America must feed herself and her allies. The President has warned us that we cannot be found wanting in "the things without which mere fighting would be fruitless."

The trenches of our war, then, are the furrows of the field.

The man behind the plow is fighting for this great cause of liberty as much to-day as the man behind the gun.

The American farmer will ultimately "see it through," for he is helping to make this world a safe place for Democracy by feeding the forces that are fighting for Democracy.

The lines of defense are Fighters, Funds, Factories, Food.

♦

THREE springs had come, three summers; and thrice we gathered in the harvest.

This spring, we thought, would be like all the rest—the warm and gentle rains, the suns that coax to life the tiny seed, the wakened bud, the green shoots above the furrow, the sturdy crop. Another summer would creep past, and then another autumn when, happily, we could put the ripe harvest to the sickle.

Suddenly we turned and faced the hideous fact. For three years we had hid from it, denied it in our hearts, labored to put it out of mind.

Spring came, and with spring the War—their war, our war.

We are in it now, in it that the world may henceforth be a safe place for men to live and labor. No longer can we flee from its realities, no longer deny our responsibility. We have placed our hands upon the plow. And with that plow shall we win.

♦

WE must raise our bit, or we and our war-worn allies will starve. This is a solemn fact. The surplus from last year's crops—which was far below normal—has been drained for the nations overseas. Some of it has been lost in torpedoed vessels, some of it destroyed by incendiary fires. We must make up not alone what will suffice for our consumption now, but enough to see us all through until the harvests of 1918. That means 100,000,000 mouths to feed here, and many millions more over there.

We must raise our bit, or hosts of men will have died in vain. As the President has phrased it, "Without abundant food, alike for the armies and the peoples now at war, the whole great enterprise upon which we have embarked will break down and fail. The world's food reserves are low. Not only during the present emergency, but for some time after peace shall have come, both our own people and a large proportion of the people of Europe must rely upon the harvests in America."

Our hands, weaponed not to smite, must now labor to support hands that toil munition factory and battle trench. We w have been too proud to fight must now in humil expiate our iniquities and vain boast.

Here is America's greatest chance for service. Here lies the pa for the redemption of her national soul. Never before did w offer to every man, woman and child in a nation such an opp tunity to do his bit for the attainment of a world ideal.

The war will mean other sacrifices. Certainly that in full meas —the sacrifice of men, the crushed hopes of women, the lonely co ing years. It will cut ruthlessly across promising careers and wo laid schemes. It will impoverish the rich and beggar the poor. F many it may mean a lean larder and an empty purse. But the things must be. If ever we expect the Angel of Wrath to pass ov we must sprinkle our lintels with our own blood.

♦

THE coming months will decide our fate and the fate of our g lant allies. June, July and August are the critical months f growing things. Pests must be hunted down and exterminate Dust mulch must be carefully pr served around the roots to make t moisture below yield its maximu service. If drought comes, water w have to be carried to the thirsty plan This means real work. It means wor ing when we don't want to, when terest has flagged and courage fail

The discipline is self-imposed. Th is all the more reason why it should unfalteringly observed.

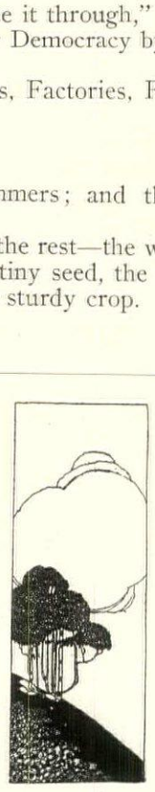
Many of us have started our garde with a high resolve to raise as much we could for our own tables so that t burden on the market might be r lieved. That sort of resolve rouses a most every gardener every spring. is nothing new. But what will be ne to many of us will be to sustain th effort and see through that resolve a satisfactory conclusion.

It is necessary for the amateur ar professional gardeners in America keep up their interest in their garde during the next three months. Th afternoon's tennis or golf will have be put off. Your first duty to you country will be to see that your plan are in a healthy condition and that the are kept so through the hot months.

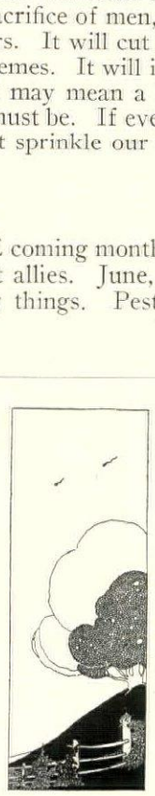
♦

IT is more necessary to see the gree things growing in these month than to see the flag waving. The fla will stay where it has always been— on high—so long as you earnestly per sist in raising your bit. If you becom a slacker at these times, it will fall be draggled into the dust just as you plants will wilt and fall into the dus

The flag will never have stripes mor glorious than the stripes of your per sistence and sacrifice this summer There will never be field of honor mor ennobling than the field you raise thi year to a bounteous harvest.



OUT OF TOWN



The Out-of-Town is luring me—
I want to be
Where I can see
A glint of Summer as she passes,
Green and glad, among the grasses!

I like the City with its air
Of do and dare—
Its glamored glare—
But oh, the lovely, languid hours,
Idled with the garden flowers!

I like the City's bustling thrift—
Its current swift—
But oh, the drift
Of snowy silence sweetly lying—
Softly flying—whitely dying!

I heed the City's golden call,
But over all
The din and brawl
I hear a still voice in the gloaming
Call me homing . . . homing . . . homing. . . .

Viola Brothers Shore.

JOHNSTON-HEWITT STUDIOS

A GLIMPSE AT "WELD"

Unquestionably, one of the finest gardens in America is "Weld," the estate of Larz Anderson, Esq., at Brookline, Massachusetts—no petty distinction when one considers the high standard set by American gardens today. The view shown here of the belvedere by the lake is one of its most picturesque glimpses

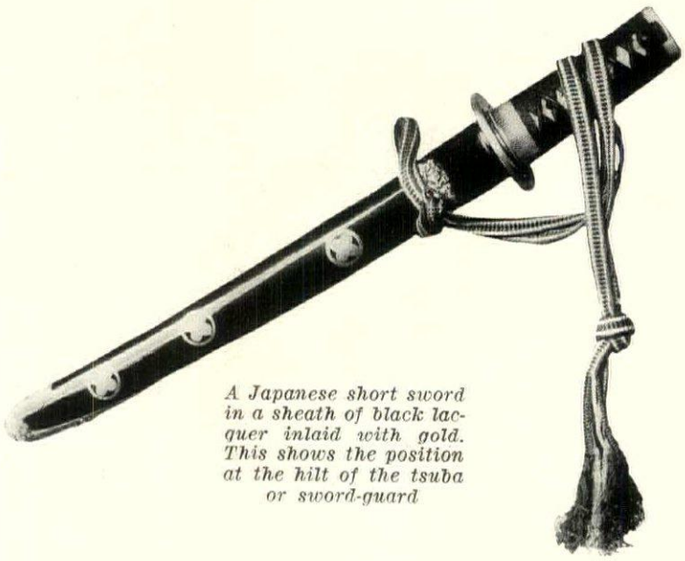
SWORD-GUARDS OF FEUDAL JAPA

Tsuba of Samurai Glory That Find Their Way from Nippon to the Collector's Shelves—Their History and Adornments

GARDNER TEALL

SMALL objects beautiful to contemplate, exquisite in workmanship, intrinsically valuable and at the same time rich in historical associations have attracted men of all ages. Little wonder it is that the collector of the *objets d'art* of the Japanese craftsmen finds in them an ever refreshing delight.

The *tsuba,* or sword-guards of Japan, are famed for their workmanship, beauty of design and historic interest, while their rarity is not such as to discourage the collector. A few years ago, indeed, these remarkable examples of the skill of the old-time Japanese metal-workers could have been picked up in the Japanese shops in America and Europe for a song. Though the price has advanced somewhat precipitously, fine specimens of sword-guards may still be had at far from prohibitive prices, when one considers that almost every *tsuba* can be counted a supreme example of the metal-worker's art. There are no two genuine Japanese sword-guards precisely alike. Each is distinctly an original and unique object, into whose fashioning has gone the best effort of those tirelessly patient and conscientious craftsmen of the Flowery Kingdom.



A Japanese short sword in a sheath of black lacquer inlaid with gold. This shows the position at the hilt of the tsuba or sword-guard

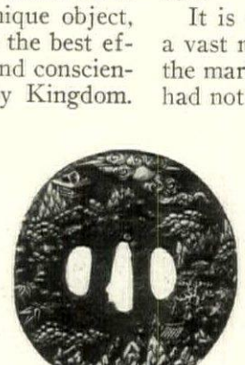
The Sword Laid Aside

Feudal Japan has disappeared, and with it the need of the old armourers' art. Fifty-eight years ago a noted Japanese official sought in vain through Yedo—now Tokio—for a countryman who might prove to be conversant with the English language, a fact that gives one a suggestion of the rapidity with which the old order of things has been thrown off and the new taken on. It was just forty years ago that an imperial Japanese edict abolished the wearing of swords. Chamberlain says that "the people obeyed the edict without a blow being struck, and the curio shops at once displayed heaps of swords which, a few months before, the owners would less willingly have parted with than with life itself."

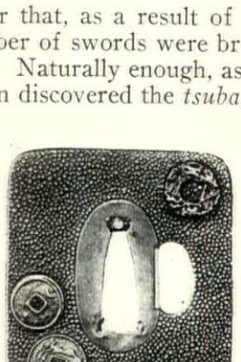
It is clear that, as a result of this edict, a vast number of swords were brought into the market. Naturally enough, as collectors had not then discovered the *tsuba,* countless sword-guards were thrown i the melting-pot. Later when Eu pean, American and Japanese c noisseurs came to rescue the *ts* from oblivion, the native craf men, still possessors of a rec heritage of skill, fell to mak sword-guards for the mark Yet even these late 19th—and must suspect 20th—Century *ts* are often beautiful, ingenious a interesting enough to be desira acquisitions on their own accou

Arms and Adornment

Marcus Huish, in his bo "Japan and Its Art," said: "It c readily be imagined that in a cou try where internal wars were co stant, where private quarrels gr into family feuds, where the ve detta was unhindered by law a applauded by society, where t slightest breach of etiquette could only repaired by the death of one of the parti and where a stain of any sort upon cha acter necessitated suicide by a sword thru attention was very early directed towar obtaining perfection in the only article defense or offense which a Japanese carri Nor would it long remain unornamented a community where artistic instincts we universal, and jewelry a other ornaments were n worn. . . . Personal orn ments illustrate better th anything else the individua ity of their wearer, and co lectively the taste of the n tion. Especially is this t case where the article question is worn as a priv lege, is held in respect, handed down as an heirloo and is the subject of t most carefully prescribe etiquette. Not only t manufacture but the adorn ment of the sword was f centuries a profession r served to artists of the hig est attainments. The orn ment lavished upon it illu trated religious and civil lif



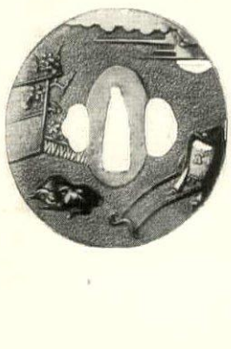
The two round cuts above are the front and back of an 18th Century landscape tsuba



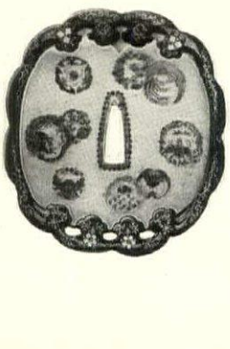
Front and back of a rare 18th Century guard of brass and bronze with inset coins

Bronze and gold have been worked into a landscape design of the 18th Century

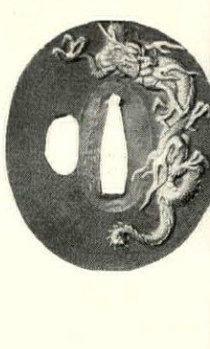
Both front and back of the tsuba below are copper and gold. 18th Century



Views of a rare enameled 19th Century guard. Enameled in full color and rim damascened

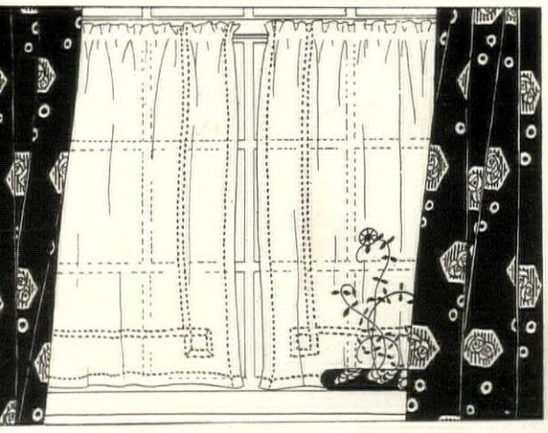


An early 19th Century guard, an excellent example of Nanakoji or fish roe surface

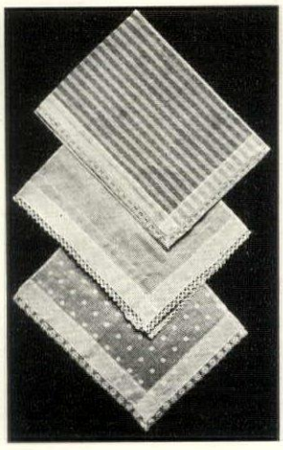


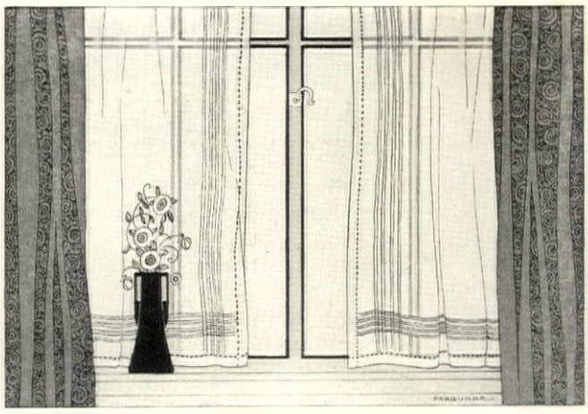
COUNTRY COTTAGE UNDER-CURTAINS

And you can get them so easily by ordering through the Shopping Service, 19 West 44th St., New York, or asking for the names of shops which supply them.



"Day's at the morn; morning's at seven," and the first rays filter through white scrim. There's a border design of hemstitching in blue or rose, as you choose, and the hem may be had in blue or rose. 38" long. $1.25 a pair

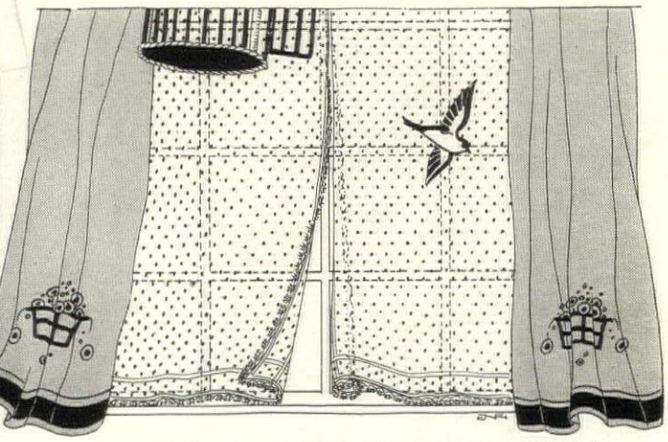




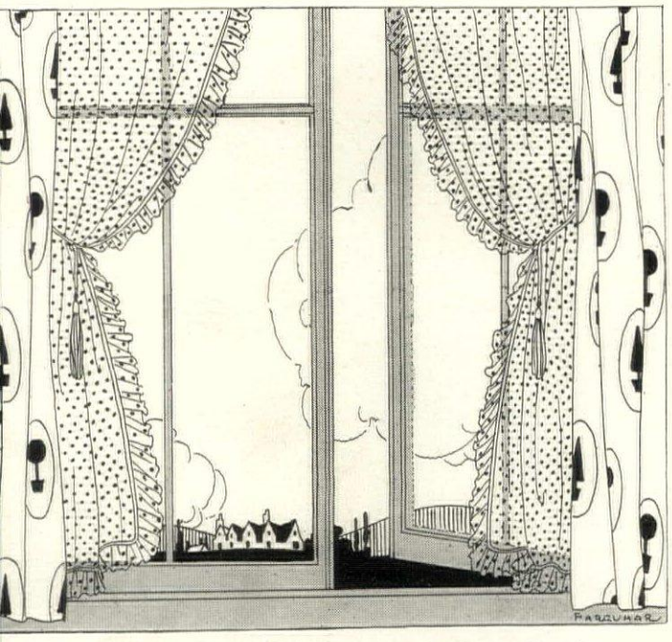
Muslin of good quality is always interesting for underdrapes in some rooms. The border is stitched with five fine tucks forming a square at the corners. Edges finished with hemstitching, 2½ yards long. 32" wide. $1.10

Curtain at the top is ivory colored striped net, the net being heavier in stripes. Edged with narrow lace. 38" long. $2.95. In center, white voile with narrow lace edge. 38" long. $1.25. Bottom dotted swiss with hemstitched hem, narrow lace edging. 72" long. $2.95

Double sash under-curtains of net give a pleasing effect at living-room windows. The overdrapes in the room shown below are mauve and green linen, the furniture mauve enameled striped in green and the rug is beige. Leeds, Inc. were the decorators of the room



A net to catch the sunshine in! Cream square mesh net dotted, the curtain being hemmed and edged with narrow Cluny lace. 2½ yards long. $2.75



For cottage casement windows comes a very fine, imported dotted swiss curtain with ruffled border finished in a fine scallop. 2½ yards long. $4.50 a pair

EARLY ITALIAN WALL FURNITUR

ABBOT McCLURE
HAROLD DONALDSO
EBERLEIN

The Cassone, the Credenza and the Bed

Photographs by
Courtesy of Nicholas Martin

UNDER the general term of "wall furniture" are to be understood all those pieces which, from the nature of their design and structure, are intended to stand against the wall — in other words, everything not comprehended under the head of seating furniture and tables. To be strictly accurate, not a few of the tables, ceremonial benches raised on a dais, and high-backed chairs were treated as wall furniture; but, as they have already been discussed, we may address ourselves directly to the cabinet work on which artisans and artists of the period often expended their best efforts.

Fig. 1. A late 16th or early 17th Century Italian cabinet on stand. This is the open view

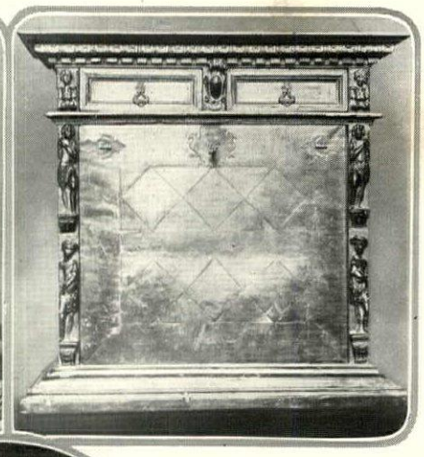


Fig. 2. Closed view of cabinet. Carved walnut with walnut veneer on drawers and front

Fig. 3. A characteristic 16th Century carved and gilt mirror frame, showing evidence of Baroque influence

The Cassone

One of the most characteristic articles of the Italian wall furniture of the 16th and 17th Centuries was the *cassone* or chest. It was not only an important item in the equipment of every room, but in one or another of its various forms it embodied all the decorative processes and types of decoration employed for the enrichment of furniture in that golden age of Italian mobiliary art. The *cassone* was an object of utility from the earliest times, but from the middle or latter part of the 15th Century on it assumed a highly significant position as a decorative adjunct as well. In the exuberance of Renaissance invention it displayed the peculiarities of contour and all the wealth of decorative detail charac-

teristic of the period; ea in the 17th Century, in l manner, it showed the straint of form and emb lishment we see in otl contemporary pieces cabinet work.

In considering not o the *cassoni*, but also other wall furniture of 16th and 17th Centuri it is necessary to keep c stantly in mind two thi that were pointed out in preceding paper. Th two things are, first, character of the archite ural background and the relation of furniture to it; second, the scantiness equipment as compared with the usage later periods. In the first place the fur ture had sufficient individuality and trinsic interest, both in form and color, give the requisite contrast with its ba ground, no matter whether that backgrou was elaborate or austere. In the seco place, the furniture was designed and ma in the full realization that each piece wo display its excellence without crowding

While it manifested sundry minor var tions, the *cassone* occurred for the m part in one or the other of three gene types, all unmistakably of the same fami

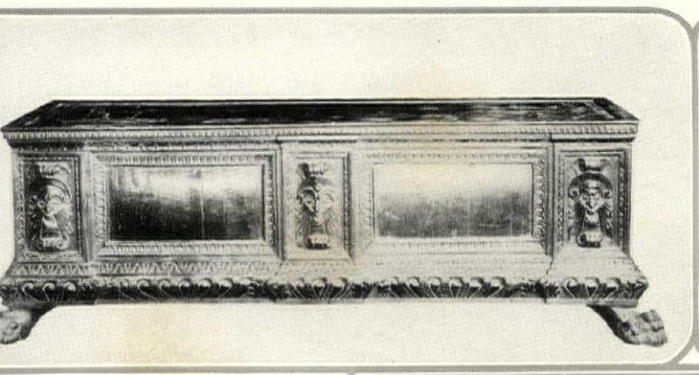
Three General Types

(1) There was the *cassone* of sar phagus contour with projecting acanth consoles and shaped top, such as the g geously ornate Florentine example of ab 1475, shown in Figure 10, or with shap sides and flat top, supported on a plinth

Fig. 4. The console cupboard was closely related to the credenza. This, of late 16th or early 17th Century, is walnut

Fig. 5. A 16th Century carved walnut cabinet of two stages, distinctly architectural in the conception of its design

Fig. 6. A madia, or Dutch-like standing cupboard, early 17th Century. No Renaissance detail. Courtesy of Geo. Howe, Esq.



g. 7. A 16th Century carved alnut chest of rectangular body d flat top resting upon feet. his is a characteristic arrangement of panels

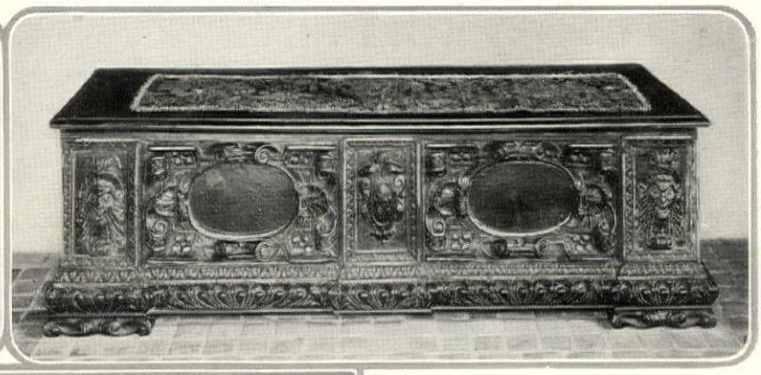


Fig. 8. A 16th Century carved walnut and gilt cassone or chest with rectangular body, flat top and feet. Photograph by courtesy of Geo. Howe, Esq.

haped bracket feet, such as 16th Century specimen in ure 9. Different combinas and adaptations of these ures occurred from time to e, but the similarity is trace- throughout.

2) The second form, seen in ures 7 and 8, had a flat top, wholly rectangular, with ight sides, rested upon feet had the front divided into , two or sometimes more dective divisions, with lesser els placed between or somees at the ends.

3) The third type of *cassone* s not dissimilar to the two ceding forms, so far as the ual chest was concerned, but od high upon trusses or stle-like supports, one at each l, like the specimen shown in ure 13. This last-mentioned m of *cassone* gave rise, in all bability, to a slightly later l modified piece of furniture, *madia*, a hutch-like standing board, such as the example own in Figure 6, which be-

Fig 9. Several variations of the chest form are found in this 16th Century sarcophagus-shaped cassone of carved walnut with flat top

Fig. 10. A gorgeously ornate polychrome and gilt cassone of about 1475. The front panel shows the taking of Trapizond. Courtesy of Metropolitan Museum of Art

longs to the latter part of the 16th or to the early 17th Century. It should be noted that, as the 16th Century wore on, the wealth of Renaissance detail in the decoration of the *cassone* gradually subsided, until in the 17th Century the erstwhile exuberance was almost wholly replaced by a severe simplicity of paneling and moulding, with but little relief of carved devices. There was a simplification in contour likewise, and the sarcophagus form of *cassone* did not continue in the 17th Century.

We have said that the *cassone* epitomized the decorative processes and types of decoration characteristic of the period, so that one may gain from them a comprehensive grasp of these decorations in their application to other representative pieces of contemporary furniture.

The decorative processes were polychrome painting and gilding, both on flat grounds and in carved relief, applied over a

(*Continued on page* 78)

Fig. 11. Next to the cassone, one of the most typical and important pieces of wall furniture was the credenza which stood on a molded plinth or, as in this example, on feet

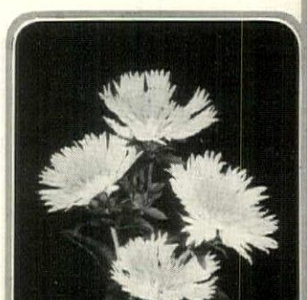
Fig. 12. The credenza served in lieu of a sideboard. It had two, three or four doors in front and usually contained shallow drawers corresponding to the door divisions

THE BEST WHITE FLOWERS

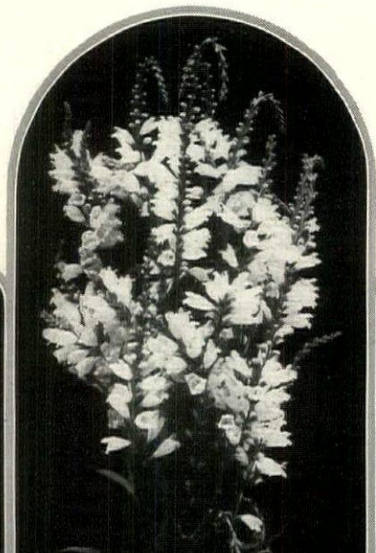
GRACE TABOR

Photographs by N. R. Graves

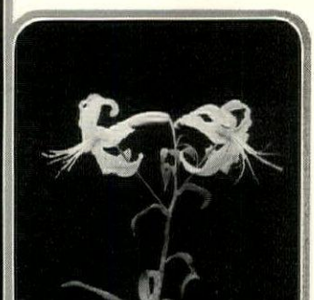
The Chief Considerations Wh Govern the Use of White in Garden—Varieties and Combinati



Stokesia can well be used freely in the white flower garden



Sometimes physostegia combines well with "Fair Maids of France"



No other white flower quite compares with the speciosum lily

USED hit or miss, flowers are certain to be lovely. Used with discernment for their particular attributes, they add distinction to their loveliness—distinction for the garden fortunate enough to entertain them under such auspicious circumstances.

Some gardeners contend that the liberal use of white acts as a harmonizing influence, setting discordant colors at peace with one another; but I cannot agree with this theory. It is only a theory, and is not borne out in fact. White is not a harmonizer; it is a divider, a separator, if you will; and only in this sense is it the "peacemaker" that some are fond of calling it. It is too showy to be a harmonizer; indeed, it is the most showy of all colors, and it demands more careful consideration than any other, whether it is used in combination or alone.

The Character of Line

Let us consider first the character of flower mass as expressed in line or form. There are two very distinct divisions, strongly marked. One is vertical, the other horizontal; and the latter is modified oftentimes into what amounts to circular. That is, by the scattering of the flower heads over the plant, an all-over effect is created, which presents itself to half closed eyes as a circle, or globe, roughly speaking.

All of the creeping plants are horizontal, pure and simple; but such things as feverfew and achillea, hardy chrysanthemums and the hardy asters are more than horizontal—they are all-over, or globular, if you look at them through half closed lids to get the impression only.

It is always the custom to consider the form or habit of growth of a plant when selecting for a special place or purpose; that goes without saying. But I do not think it is usual to give any more consideration to this when they are white one is choosing than is given to flowers of any color; yet white flowers, by reason of their showiness, emphasize to a remarkable degree these lines of the flower mass. So if they are inharmonious lines, or inharmonious forms, the effect is much more pronounced than the same combinations would be in color mixture, or even in any other single color. This is the plain logic of the situation, and we have to conform to it if we would succeed.

With the thought uppermost that white provides always the strongest contrast when used with any color, introduce strong contrast in the form of inflorescence also. Contrast in every way should be the essence of the effect resulting; vertical lines combined with horizontal, and combined with the most startling abruptness possible.

There are white forms of so many of the familiar flowers it seems hardly a thing need be omit even though one p poses to confine h self to white al But when using w with other colors lect those thi which have no du cates in the ot colors in your gard That is to say, do include white la spurs in a flower b der where the b larkspurs are planted. All the fo of contrast is lost such a combinati and neither the wh nor the blue flowers are impressive. Us different species entirely—plants like ac lea or white campanula or white Stokesia

Certain combinations with white are h pier than others. All flowers of delic coloring are intensified by proximity white, naturally; and similarly, all flow of strong color are strengthened. If a sta ling effect is desired, choose bright a strong colors to combine with white; if delicacy is wanted, select the pa mauves and yellows to use with it. Pi curiously enough, is not improved by company of white; for pink is luminous a color of itself that combination lacks charac Probably the most effective co bination is white with yellow, white phlox with yellow lem lilies, white iris with the yell hardy alyssum, or white ca panula in connection with yell Iceland poppies.

I am speaking, of course, white flowers as they appear o of-doors in the garden, and as they may be combined in t house; their garden use presum that they shall take their prop place in a picture, and it is to th end that careful planning needed. For, being conspic ous, they will "jump" at the o server, if used too freely, or the wrong places. A light sc tering of them throughout t garden is agreeable; but nev large masses in any one pla save as they are used to form o of the contrasting color combin tions just referred to.

Where a White Garden Fi

Color schemes are so large a matter of taste that it seem almost presumptuous to conden

The white hollyhocks, from 6′ to 8′ high, will provide a vertical note in June

or recommend another; but a white ered garden seems conservative enough nd room almost anywhere. Yet there great many who would reject it as im- ible, on the ground that it would be in-. However, there are subtleties and ees in "white" that altogether escape nary observation.

ne may choose to have a white garden ever a blue or a pink or a yellow garden ld be acceptable—that is, anywhere at so far as general conditions are con- ed. But I would not choose to devote rden to white flowers alone, with build- of any but the lightest colors and pref- ly in stucco. Dark stained shingles and somber dignity of half-timber demand h of color in all that approaches them; e painted houses, on the other hand, likely to be somewhat stiff without a in gaiety in garden planting; houses ted in other hues are too uncertain to r into generalities of this sort; and brick es are too rare.

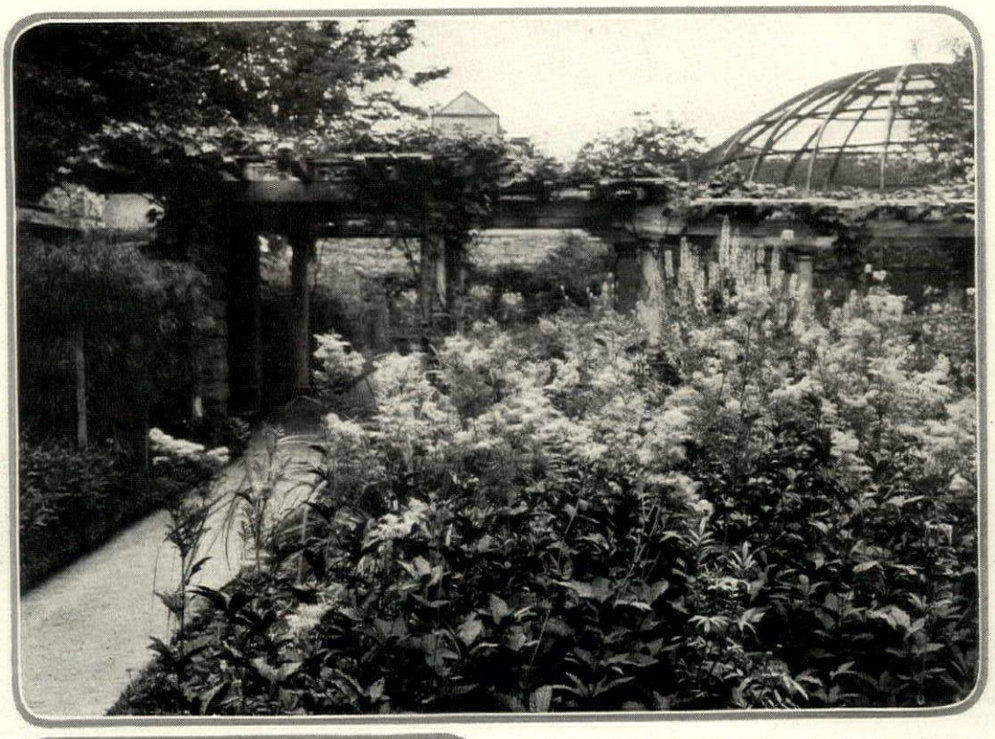
iven the brick house, however, or a e of stone, there is almost as good an rtunity for the use of white flowers e in the garden scheme as the stucco e affords; although with stone it is per- rather better to plan some diversity in r and the introduction of warm tones. f course, color does not matter so tly where the garden site is not imme- ely adjacent to the dwelling; but even re it is removed sufficiently not to be ght into relationship with the latter at I still would adhere to these general ciples in adopting white as the motif. one reason or another, white flowers usively are more suitable when used in nection with the materials I have just merated than with anything else.

How to Plant It

have already said that there is greater essity for careful consideration with re- l to the use of white flowers than with other color; this is doubly so of the ction and the planting of an all white garden. It must have character and not be an inane conglomeration of white and green.

The character comes with the lines—and the grouping with due regard for these lines. Important as these are anywhere, they are more important than usual in a garden devoted to one color; and most important of all in a garden devoted just to white. It is like an artist's study in black and white, wherein composition and line afford him his only opportunities. Indeed, it is hardly exaggeration to say that anyone can make a lovely garden in colors, but it takes a genius to create one all in white.

It may be great or small; it must be well designed. It should be simple in design, and of course, it ought to be enclosed in one way or another. Nothing is a garden without being thus set apart.



Used en masse, spirea or meadow-sweet is distinctly effective. This is Palmata elegans, bearing white flowers with crimson stamens

n choosing large marshmallows for the hite garden, the crimson-eye variety is ood unless the giant forms are desired

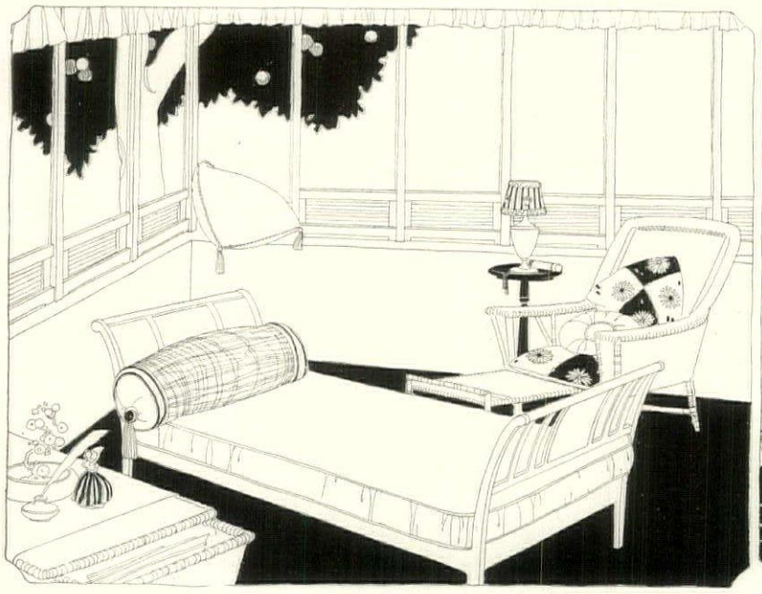
Simplicity vs. Originality

Simplicity of design is one of the most difficult, and at the same time one of the easiest things in the world to accomplish. It is difficult because there is invariably the wish present with the designer to create something "differently." Now there is no such thing in the world as entire originality, and anyone who deludes himself into the belief that he has created a design hitherto unthought of has worked upon his own credulity to an alarming degree—or else he has actually gone over into the realm of mental shipwreck, and "designed" something too awful for contemplation.

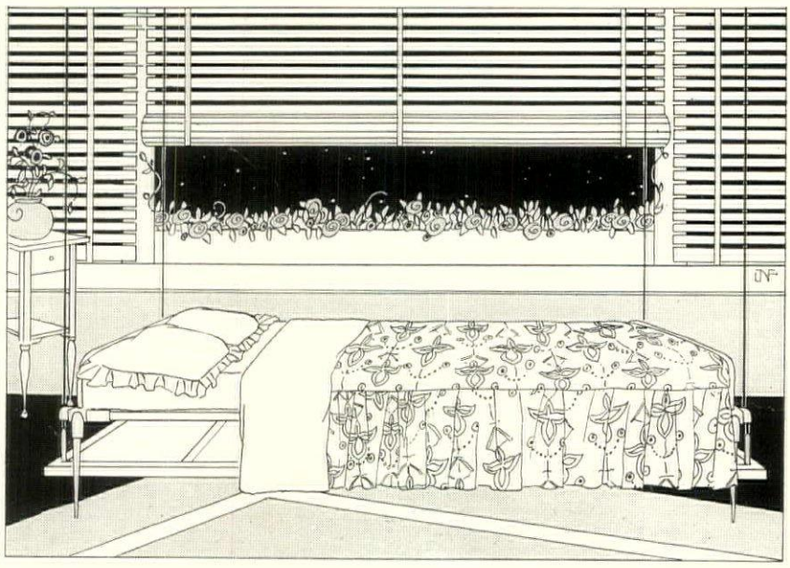
There are gardens that I suspect have been developed in just this fashion; they are original and "different"—and they are nightmares! Avoid anything of this sort at all costs, even if you have to settle down to a single brick path bordered with flowers. There is not the slightest degree of originality about this. It is as old as the hills,

(*Continued on page* 64)

Try the Japanese bell-flowers in a good, large mass. They grow about 2' or more high and blossom in midsummer

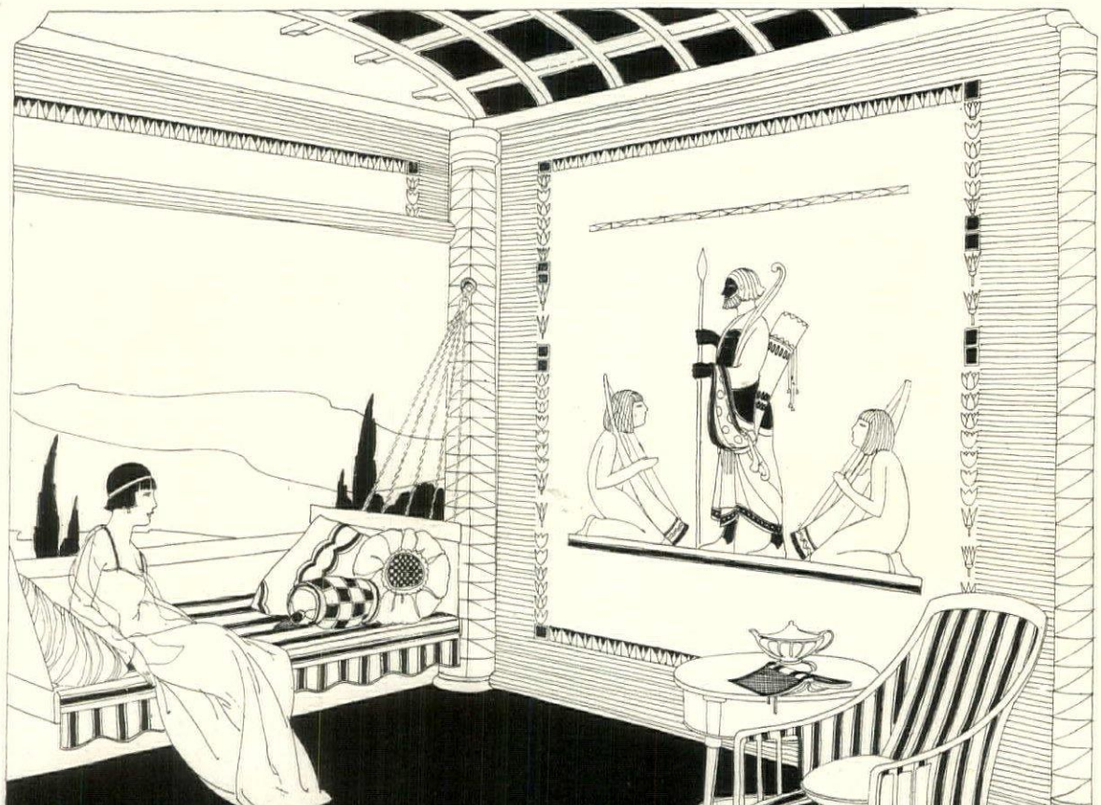


Instead of the usual iron hospital cot generally used on the sleeping porch, why not a day-bed? The color is green and the striping lapis-lazuli. Cushions and cover can be corn color. Chairs and table are painted to match the bed. A blue glaze pottery bowl holds the light. Steamer chairs and deck rugs complete the scheme. The windows are arranged as in a trolley car



The ceiling bed is raised and lowered by turning a crank installed in the wall. As the bed comes down, a false top panel automatically closes, leaving the ceiling complete. Sagless spring, iron bed, upper false ceiling, lower ceiling bed bottom, and necessary gear. Courtesy Sorlien Bed Co.

Why should the sleep porch in its revolting b ness smack so much of a s tarium? Make it livable w painted day-bed, chairs tables, tile floor, or a f painted to simulate tile, or two wicker chairs, and tains of silk or linen in shade to harmonize with color scheme of the ro Here is a sleeping porch t is presentable at any ho



It may sound bit devastatin but in these do of courage decoration, t Egyptian sleepi porch is not al gether impossib It is easily mad The floor can painted burnt w ber. Canvas cu tains have Egy tian panels characterist shades. The slee ing hammock a chairs are uph stered in the sam colors. The chai and table could green,—doubtle Nile green wi black striping.

HE SLEEPING PORCH BY DAY AND NIGHT

Some Suggestions for Making that Part of the House Look Less Like a Sanitarium

BIRDALINE BOWDOIN

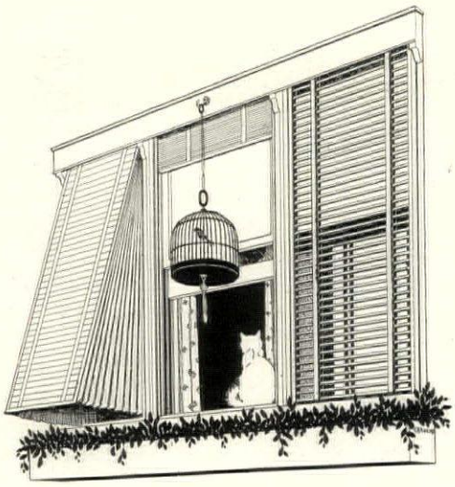
OW, I want it distinctly understood that if you two girls are going to down your bed and sleep in two droopy nocks out on the upper piazza, I am to be routed out of my comfortable in a decently warm room, no matter happens. So don't get colds or any ailment, for I mean what I say, and not lend my room."

Not going to be sick ever, because ing in the open air is the greatest for the health, and hammocks!—— is nothing so relaxing or so restful, ing as they do to every motion or every ze. Why, they're just——"

sewing the sheets, blankets, counter- s and canvas covering into sleeping , they were kept in place. To insure y, each occupant of the hammock laced elf into its meshes, so that the result suggestive of two mummies in boudoir of water-proof canvas, the which was ed mirthfully by callers of maturer . But the two didn't care.

A Flight Into Egypt

he mummy idea, coupled with the fact chool studies in Ancient Art, suggested decorative scheme for the sleeping- h. They had the wall of the house ted a warm stone color, and a quarter-inch line in Egyptian red framed the windows, giving a panelled effect to the side wall. The railing bounding the piazza was stone color, with red line running down each spindle. The floor was painted dark red and divided into eight inch squares by lines of the brownish-black of the Egyptian style. A cream-white awning, whose heavy roller kept it back out of the way on starry nights, and rolled it down over the pergola-like open roof beams and dropped it to the railing or floor in times of storm, was adorned with bands of lotus flowers, framing a panel of stern Egyptian figures in the characteristic reds, dull yellows, blue greens and brownish blacks. Nor were the canvas sleeping bags without their lotus decorations.



A combination blind and awning is shown to the right. It can be held at any desired position. The slats are wood and the supports phosphor bronze, strongly constructed throughout. Courtesy of the J. G. Wilson Corporation

When the porch is of sufficient size, beds are far better than hammocks to sleep in. There are iron cots which cost as little, if not less than hammocks, and whose well-stretched springs, with a good hair or felt mattress, offer greater comfort to most people. The ends are no higher than the mattress, so that in daytime the bed gives the appearance of an inviting divan. For cold weather warm things must be under as well as over the sleeper, and a waterproof covering must be made to protect the entire bed and hang well down over the sides, arranged with an opening large enough to slip the head through. Then the head must be covered with a cap or helmet, also waterproof, as a protection against colds.

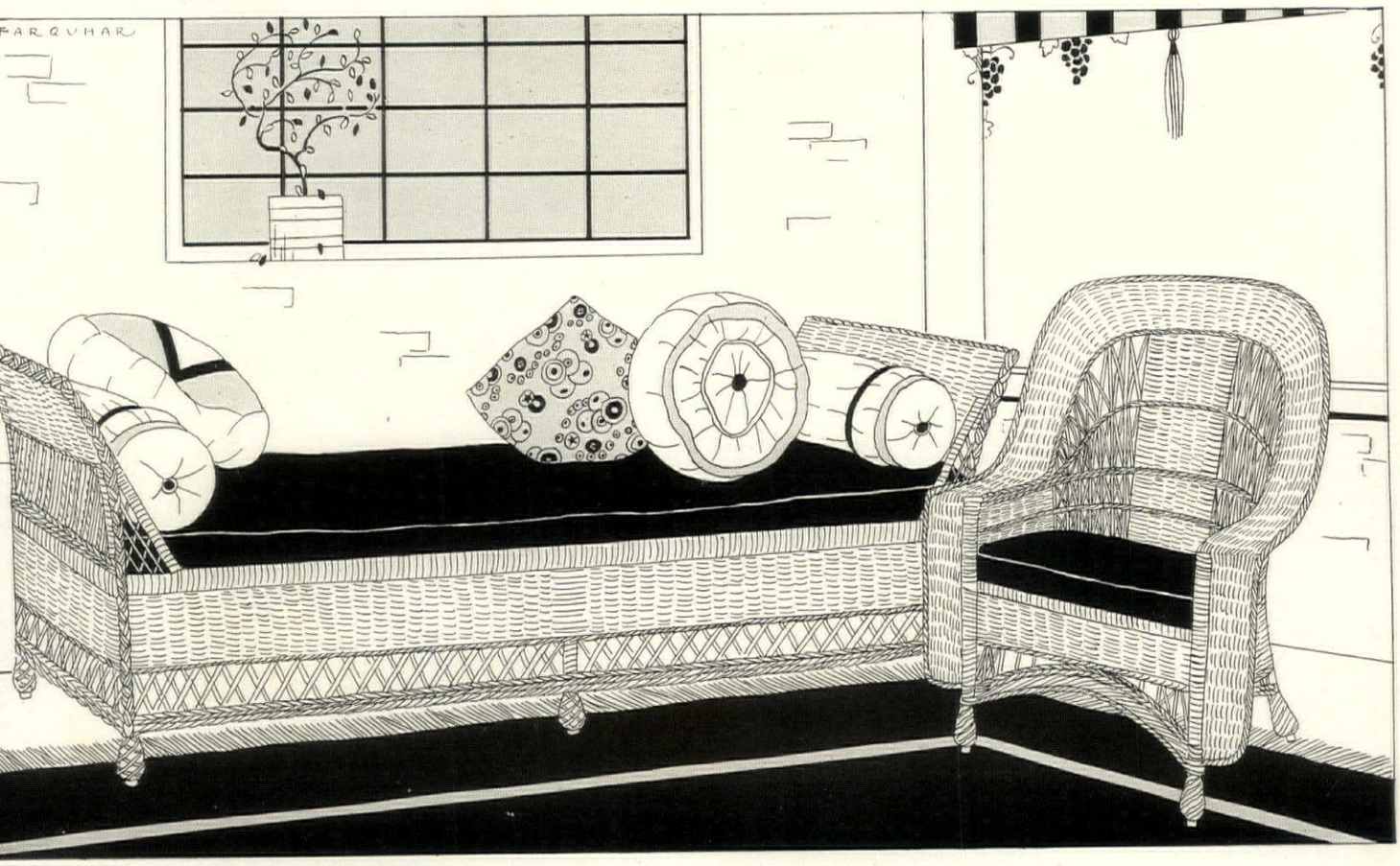
To be sure it is not always winter on a sleeping porch, and many people enjoy reading or writing in bed. Therefore beside the bed stands a convenient table to hold the lamp and books and other accessories, while over the lap rests an invalid's bed-table—a wonderful attribute for an industrious "lounger."

That Sanitarium Bareness

Many regard a sleeping-porch as merely a sort of medicinal sleeping place used only for the "misery" of night time. Nothing

(*Continued on page* 68)

The day bed below is wicker, 6′ 2″ long, 30″ wide. Fitted with removable box and cushion covered in denim. The chair, stained or natural, can be had with or without cretonne cushion seat. Courtesy of Minnet & Company



JOHNSTON-HEWITT

In the corner of the garden of E. J. Berwind, Esq., at Newport is a lovely Venus mounted on an ivy covered pedestal and silhouetted against dark foliage

Foul weather and fair, young Pan blows his pipes. Edward McCartan, sculptor. Courtesy of Gorham

GILL

A young centaur holds up the dial to catch the laughing hours. He is in bronze and graces the lawn of Franklin Murphy, Esq. H. Van Buren Magonigle, architect

GODS OF THE GARDEN

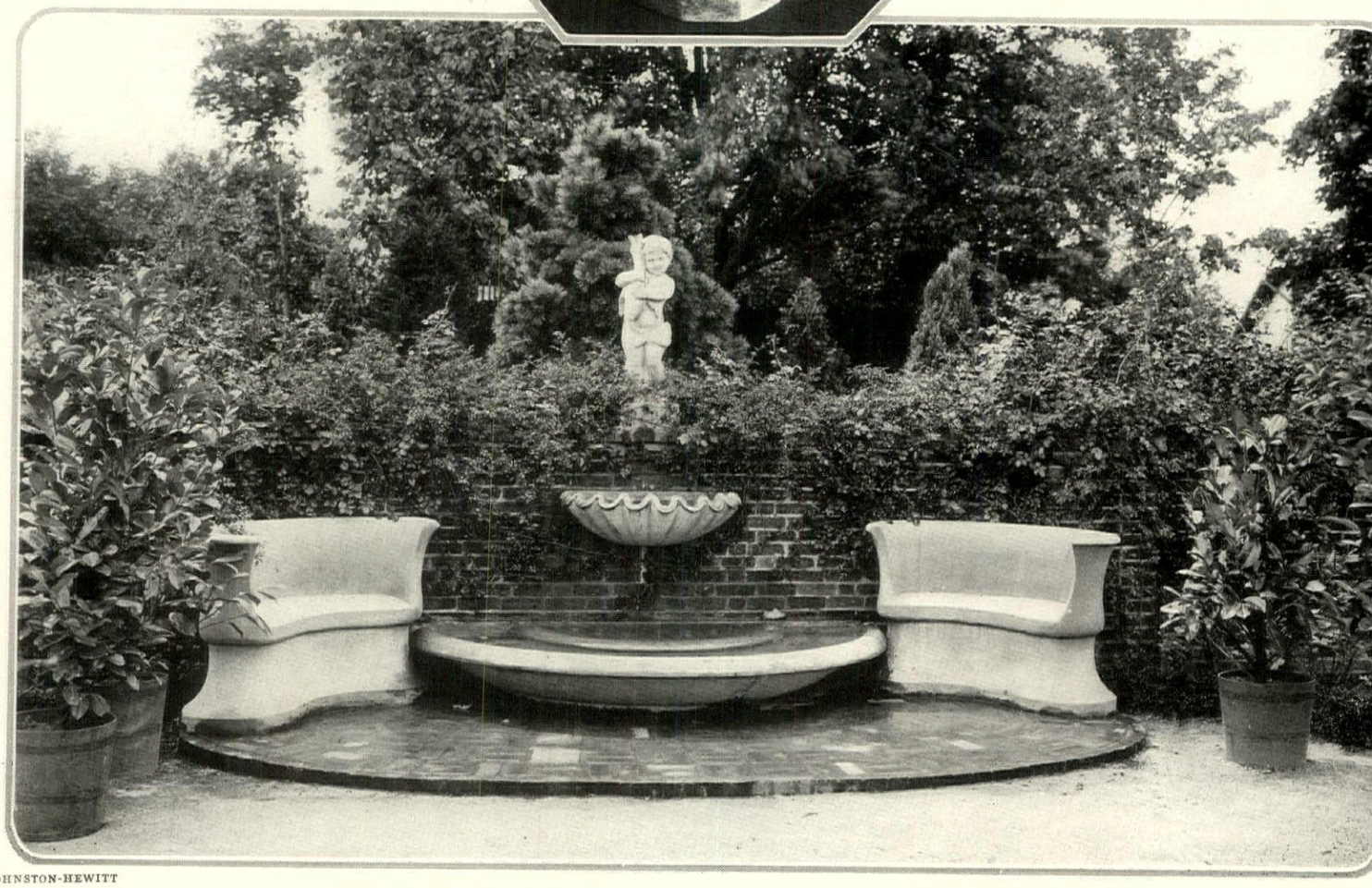
Pan Pipes The Birds to Song

COME OUT AGAI

By Many a Stately Founta

Statuary can find no nobler spot than at the end of the garden axis surmounting the exedra behind a curved bench and the shallow basins of a fountain

They drink from the fountain's rim, these children; their chubby hands clutching at the edge. It is called "Joy Fountain", by Edith B. Parsons. Courtesy of Gorham



JOHNSTON-HEWITT

OUNTRY HOUSE ATER SYSTEMS

Sources of Supply and How to Utilize Them

CHAS. EDW. HOOPER

NE of the first problems which confronted man when eased being a hunter and be- e a grazer, was that of water ply for his stock.

s much of the grazing land more or less elevated, it fol- ed that it was generally de- nt in natural water sources. ce, the birth of the water ks; and thus we face the position of today, with hun- ls of years of experiment and erience back of us. Indeed, y of our present methods e an ancestry far longer and far more resting than our own.

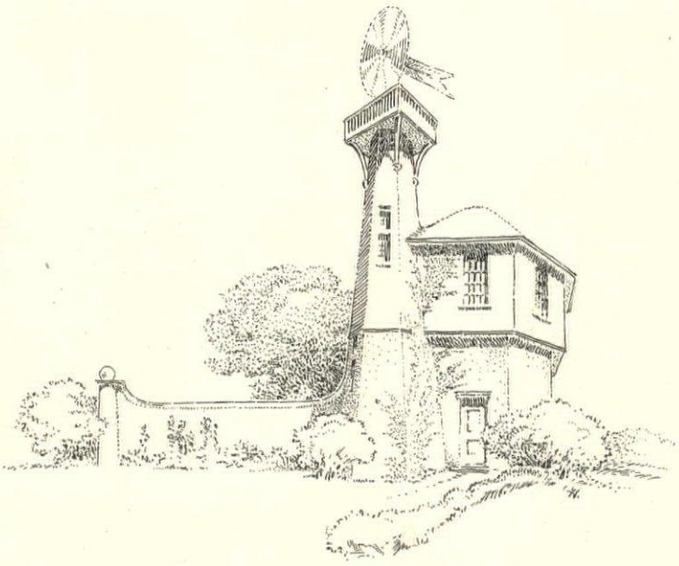
When a man builds himself a house, he rally picks a dry spot, and the finished lt has the chance, at least, of being a tiful thing. When he plans for his er supply, it is generally after he has , or at least located the house; he then s what he can get for his water. It is a question of suitability—the avoid- of low places, in which the surface er may gather; and the ridges, from ch no water is to be gotten. How he locate his hidden supply is a question ide the province of this writing.

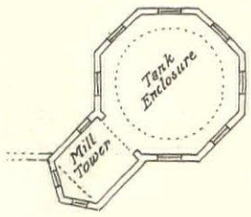
he home service is best supplied by ity, from a naturally high and sufficient ce. But this is not for most of us. s is generally the low source, the force- p, and the raised tank or reservoir which ishes our gravity flow.

The Source of Supply

he common supply is found in the well, ch may be spring fed or an interrupted . The well may be either dug or driven. drinking purposes, the dug well is the er, as the water does not stand so long e pipes. A good spring source is best rged to be contained in a neat reservoir, giving a reserve supply, even should ething go wrong with the working of system at any time.

When your property is on low land near ver, the banks of which are of sand or el and the water naturally good, a well be located at a little distance from the . Here are natural filtering and a copi- supply. A dug well is best constructed a smooth interior and of solid masonry n to nearly the depth of the inflow. Be- this the wall should be porous. Well water is generally pure and wholesome; cool in summer and warmer in winter than that taken from ponds or rivers. Thus it is less liable to freeze than that of the more exposed sources of supply.





PLAN

The windmill need not be an architectural eyesore. Here are two suggestions —one for tower and tank, the other for tower alone

The copious spring may partake of the above qualities. It often has possibilities with the hydraulic ram, and as such is a valuable possession. The ram is a mechanical device which enables us to raise a small body of water by utilizing the power of a much larger body. Or in other words, the impulse of flow is automatically checked and a portion of the flow diverted into our supply system. It is necessary to the working of the ram that the drop of the inflow or feed pipe be at least 18″ below the source of supply, and that the length of the feed pipe be not less than 25′. If the ram must be nearer than this to the spring, the extra length of pipe may be laid in a 6′ coil.

The ram may force water to a distance of from 1,600′ to 3,300′ and raise it from 100′ to 200′. Water carried to a distance of 1,000′ and elevated to a height equal to ten times the fall from source to ram, will deliver about one-fourteenth of the water used. Twice this delivery will be made if the elevation be only five times the fall. From this we see that our spring must be copious; the greater part of the water is not delivered and goes to waste.

The installation of the ram is perhaps best effected in a concrete pit, which is sufficiently large to allow working around the machine. There should be an effective drain about its base to keep the water from flowing over it, and the outlet to this should connect at once with a lower "splash pit" to save the waste from digging too deeply into the soil.

A wooden cover for the ram pit is best made in the form of a low pitched roof which swings back upon hinges. Ventilate this through the small gables. It is hardly necessary to mention that all covers and doors, which guard both reservoirs and mechanical contrivances, should be under lock and key to keep them safe from invasion and possible injury.

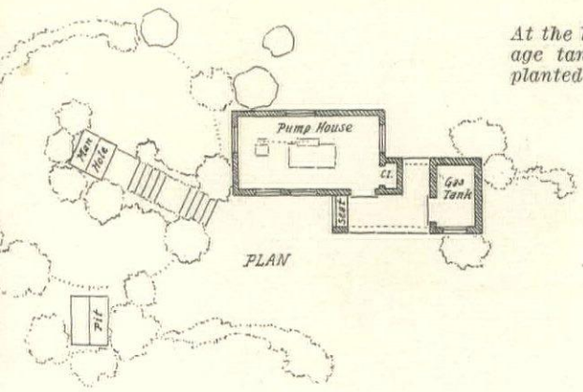
The waste of such a supply at once suggests a water garden with bordering poplars, pussywillows and like water-loving growth. Perhaps there can be an irrigating system beyond, where the water is collected in a fairly shallow basin that it may get the benefit of the warming sun.

The delightful possibilities of the screening of the ram-pit and the spring form a problem both simple and unusual. Success lies entirely in the judicious use of small trees, shrubs and plants. And it might be mentioned here that in all cases where a protective structure is built about any of the essential units of the water system, the introduction of planting may be used more effectively to tie the structure to the landscape and lend it harmony.

The Storage Tank

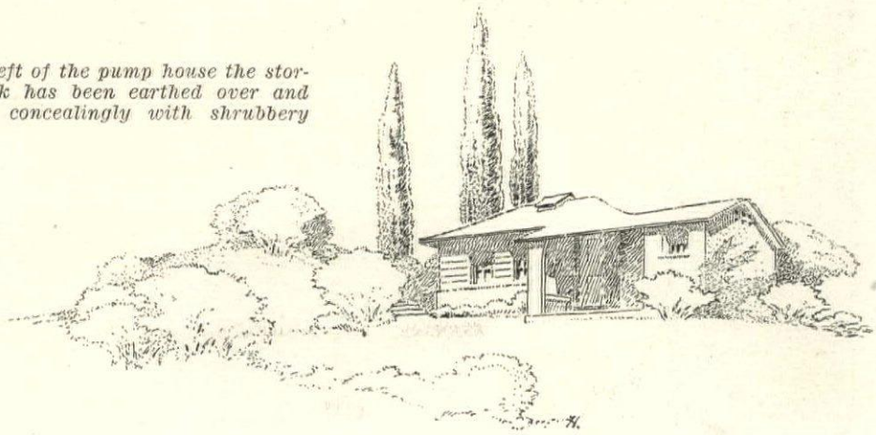
So much for the first step, the source of supply. Next comes naturally the provision of a storage place into which the water may be conveyed, in order that it may be fed by gravity into the house system. The most common system is that in which the tank is installed in the attic. This may be satisfactory for a small supply, but care should be

(*Continued on page* 58)



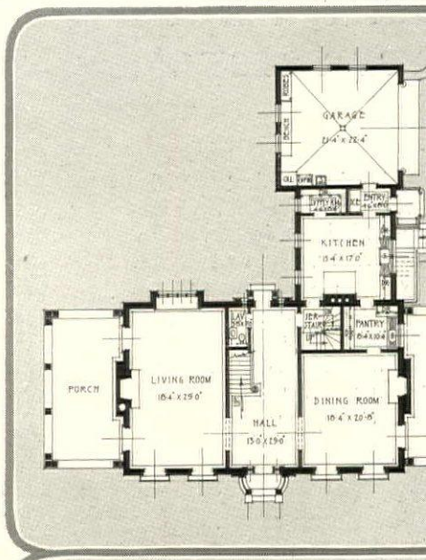
PLAN

At the left of the pump house the storage tank has been earthed over and planted concealingly with shrubbery

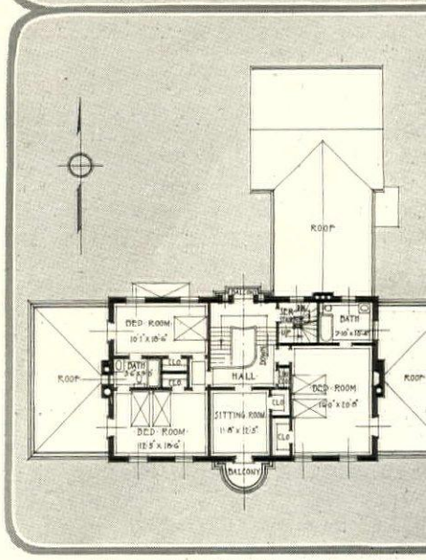


GILLIES

There may be many modern entrances that reflect the Colonial spirit, but few do it so faithfully and so successfully as this. The iron balustrade is especially beautiful



Although divided into separate parts, the buildings are co-ordinated into a unit. The living-room, hall and dining-room form one division, linked by the kitchen with the garage



An upstairs sitting-room is one of the advantages of the second story plan. Bedrooms are arranged to command maximum light and ventilation. Closet space is plentiful

Arched French windows on the lower floor and the pillared entrance relieve the straight Colonial lines. There is nice Georgian balance in the porches at either end

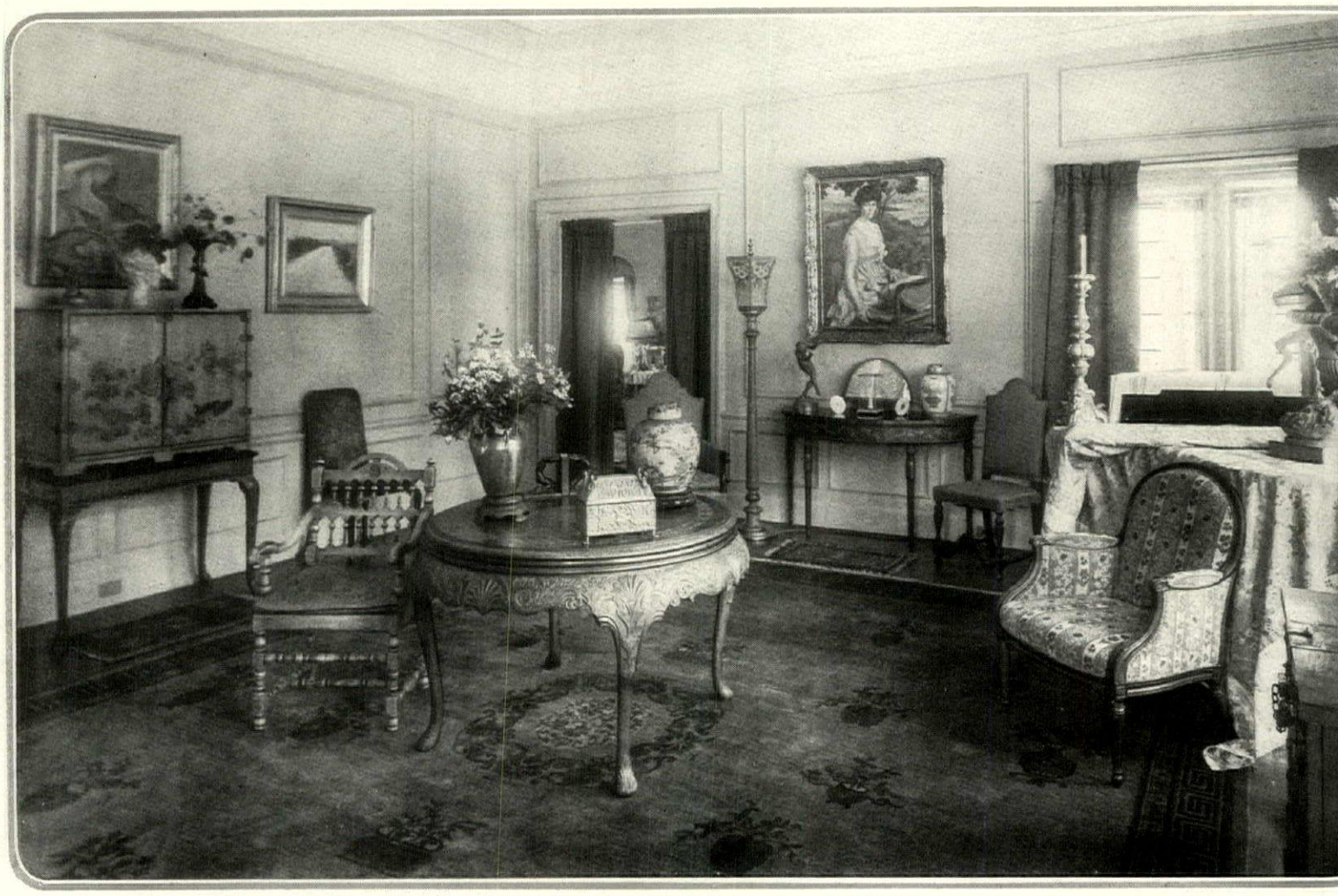
THE RESIDENCE OF HENRY R. SWARTLEY, Jr., *Esq.*

GREAT NECK, L. I.

A LITTLE PORTFOLIO OF GOOD INTERIORS

WALLACE

If you question the ability of an architect to crystallize personality in a room, you have only to consider the masculine qualities established in this man's room. There is a virility to the very walls, a solid austerity to the paneling, and a pleasing grace to the linen fold above the fireplace. Mellor & Meigs, architects



In "Laurel Hall," the residence of S. H. Fletcher, Esq., at Indianapolis is a music room of piquant charm. The Chinese rug is old gold and old blue. Draperies are damask in old gold on mulberry. Furniture is French walnut, the walls cream, side chairs upholstered in needlepoint tapestry, and the cabinet is amber color lacquer. Cooper-Williams, Inc., decorators

The library of "Laurel Hall" has a fitting atmosphere of studi ous dignity. Woodwork is oak, the mantel Caen stone. The rug is plain taupe. Curtains are blue velvet in an antique weave The furniture is oak and walnut, the upholstered pieces being in blue and gold mohair damask, plain blue velvet and needle point tapestry. Cooper-Williams, Inc., decorators

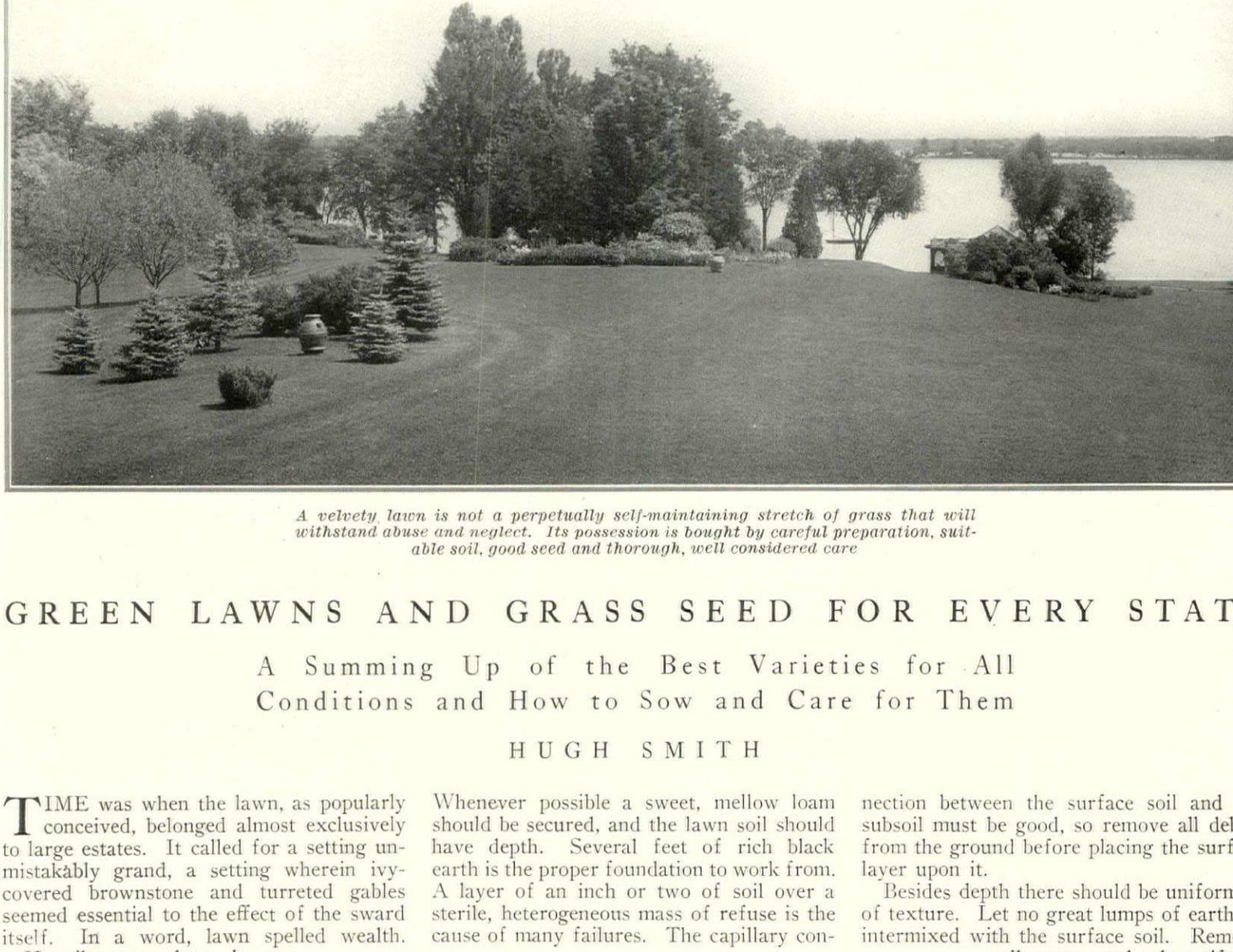
One of the bedrooms at "Laurel Hall" has a large floral patterned paper on a cream ground. The furnishings are simple—simple mahogany beds with plain satin covers, and plain upholstered chairs. Cooper-Williams, Inc., decorators

The charm of this sun room lies in its simplicity. The floor is ivory and green tiling, the furniture ivory covered with green satin. Benches are marble with velvet cushions of rose geranium. Puff shades of green gauze. Mrs. Lorraine Windsor, decorator

There should be something intimate about a bedroom fireplace. It need not be formal, although it should have a dignity in keeping with the character of the room. The carved mantel and paneled overmantel mirror in the bedroom shown to the right make a happy combination

JOHNSTON-HEWITT STUDIOS

The walls of the dining-room at "Laurel Hall" are paneled in walnut broken by a carved Caen stone mantel. Curtains and portieres are of tapestry in an Italian design. The furniture is Italian walnut upholstered with plum colored figured silk velvet. Cooper-Williams, Inc., decorators



A velvety lawn is not a perpetually self-maintaining stretch of grass that will withstand abuse and neglect. Its possession is bought by careful preparation, suitable soil, good seed and thorough, well considered care

GREEN LAWNS AND GRASS SEED FOR EVERY STAT

A Summing Up of the Best Varieties for All Conditions and How to Sow and Care for Them

HUGH SMITH

TIME was when the lawn, as popularly conceived, belonged almost exclusively to large estates. It called for a setting unmistakably grand, a setting wherein ivy-covered brownstone and turreted gables seemed essential to the effect of the sward itself. In a word, lawn spelled wealth.

Happily, now, those days are past. The increase of homebuilding by all classes, an awakening to home beautification, and an increased civic conscience have made the production and maintenance of lawns a matter of general interest.

Yet fundamental principles are often disregarded in lawn making. Poor results follow. It is difficult to impress on some people the fact that a lawn is not a perpetual, self - maintaining stretch of grass that will withstand every conceivable sort of neglect and abuse. To the average man its making is but the process of scattering an unknown seed mixture, purchased at any corner store, over a piece of ground that has been decorated with parallel scratches by his garden rake. Once the seed is sown he carries no further responsibility for the product that is to result.

Lawn Soils

The character of the soil is the first consideration in successful lawn making. Whenever possible a sweet, mellow loam should be secured, and the lawn soil should have depth. Several feet of rich black earth is the proper foundation to work from. A layer of an inch or two of soil over a sterile, heterogeneous mass of refuse is the cause of many failures. The capillary connection between the surface soil and subsoil must be good, so remove all del from the ground before placing the surf layer upon it.

Besides depth there should be uniform of texture. Let no great lumps of earth intermixed with the surface soil. Rem all stones and other rifr

The lawn is not like a c tivated field that can plowed and planted wit rotation of crops. La soil must furnish availa plant food in large quan ties over a considera period of time. This me that there must be a la amount of humus in it. I best to build up the soil t high degree of fertility fore the grass cover grown upon it; it is mu easier to incorporate the mus with the soil at this ti

Surface and Drainag

Stable manure, prefera that which is well rott should then be applied a plowed under. The surf should then be thoroug worked into a smooth s bed; simply having a smo appearance on top does mean much. The upper s should be worked over w a garden rake until it is very fine texture; in fact should form a dust mulch

The soil must have su cient drainage. Low, w spots become sour. It is d

NORTHERN DIVISION			SOUTHERN DIVISION	
Soil Condition	*Major Grasses*	*Supplementary Grasses (Only 5% to 15% of each in mixture)*	*Major Grasses*	*Supplementary Grasses for Winter*
Loam Clay loam Sandy loam General	Ky. blue R. I. bent Creeping bent Canada blue (in dry situations)	White clover Redtop	Bermuda grass St. Lucie grass *Lippia canescens* *Lippia nodiflora*	Italian rye Perennial rye White clover
Clay soil	R. I. bent Ky. blue Redtop Creeping bent	Redtop White clover	Bermuda grass St. Lucie grass St. Augustine grass	Italian rye White clover
Sandy soil	Kentucky blue Canada blue (dry situations) R. I. bent Creeping bent Sheep fescue	White clover	Bermuda grass Carpet grass *Lippia canescens* *Lippia nodiflora*	Italian rye White clover
Extreme sandy condition	Beach grass			
Slightly acid condition	Redtop R. I. bent Creeping bent			
Brackish conditions	Dense flowered bent			
Semi-arid conditions	Buffalo grass Native grasses Canada blue		Bermuda grass St. Lucie grass St. Augustine grass	
Shady conditions	Wood meadow (deep shade) Red fescue Crested dog's tail Ky. blue Various leaved fescue Redtop Dense flowered bent		St. Augustine grass Bermuda grass	
Slopes and terraces		Sow oats, rye or timothy with mixture for given soil.	Bermuda grass St. Lucie grass *Lippia canescens* *Lippia nodiflora*	

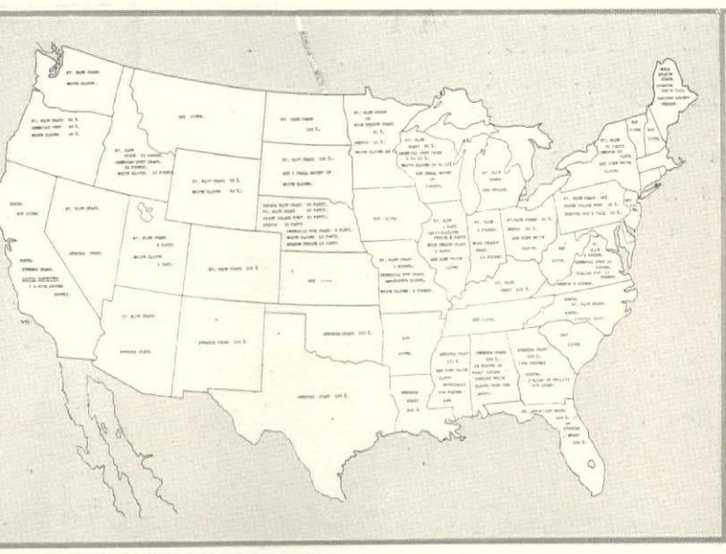


Fig. 4 is for loamy soil and shade. Use for: Rhode Island, wood meadow, crested dog's tail and fine leaved fescue mixed with Kentucky blue, redtop, R. I. bent and white clover. Conn., Kentucky blue, R. I. bent, white clover. Mass., 40% fancy Kentucky blue, 30% wood meadow, 5% Canada blue, 10% v. l. fescue, 10% crested dog's tail, 4% Italian rye, 1% white clover. Md., 40% Ky. blue, 10% v. l. fescue, 40% wood meadow, 10% crested dog's tail

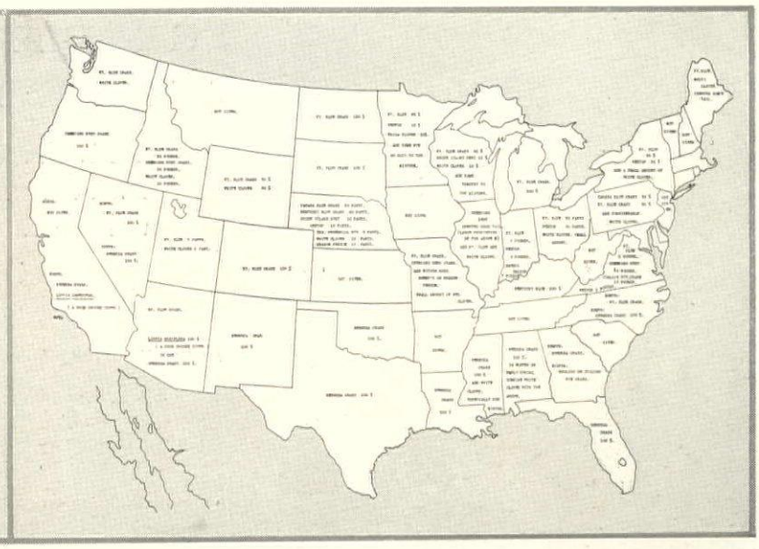


Fig. 5 is for loam soil on a slope. Additions to the map are: Rhode Island, 7 lbs. Kentucky blue, 7 lbs. redtop, 3 lbs. white clover, 3 lbs. Rhode Island bent grass. Connecticut, Kentucky bent. Rhode Island bent, white clover. Massachusetts, 20% fancy Kentucky blue, 15% Canada blue, 20% crested dog's tail, 35% Rhode Island bent, 9% Italian rye, 1% white clover. Maryland, 25% Canada blue, 10% Kentucky blue, 40% creeping bent, 25% crested dog's tail

ult to secure satisfactory results unless e soil is open and warm. If necessary, der-drainage by means of tiling should resorted to. This is a technical subject verned largely by local conditions, and yone having work of this sort to do ould make a special study of its engineer-g phase with reference to the problem.

Lawn soils not in the limestone regions e apt to be somewhat acid. This condi-on should be corrected by an application air slaked lime at the rate of thirty ushels to the acre. This is best applied as winter dressing.

Seed Mixtures

To the average buyer the various trade ixtures of lawn seed on the market smack the alchemy of the Middle Ages. There something awe-inspiring in the elaborate umber of varieties they combine into one ackage of seed and the relative efficacy aimed for each special combination. To ear the subject in your mind here is an analysis of what to use, and where:

The map in Figure 2 graphically shows the regions to which the principal lawn grasses are adapted. There are three divisions. The first or Northern, shown by the unshaded portion on the map, embraces those States where Kentucky blue grass is the standard for practically all situations. The chief exceptions to its full use are in the Atlantic coast region where the moist clay soils are inclined to be acid. Here you will find redtop and the other bent grasses as the basis for lawns.

In the extreme northern part of the United States, in some localities are found rather gravelly and sterile soils. Upon these the growth of Canada blue grass has been found to excel that of the Kentucky. In some arid portions of the Great Plains region the grasses which are native to the special localities grow better than others.

The second or central division is shown by the cross-hatching on the map. In this group of States no distinct line of demarcation between the grass areas exists. The blue grasses predominate in the northern part, but Bermuda grass supersedes them in the southern and warmer parts of the States. Those contemplating the building of lawns in this section should carefully study the varieties in common use in their particular locations and make use of the grass which is giving the best results.

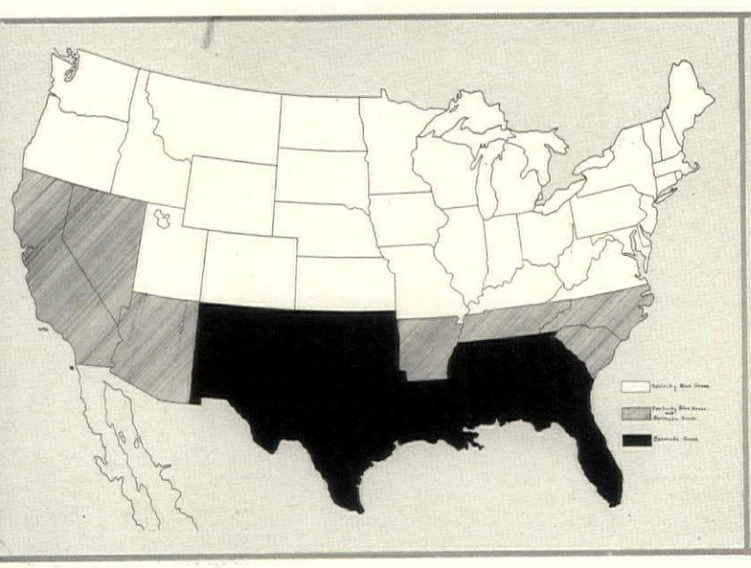
Grass in the South

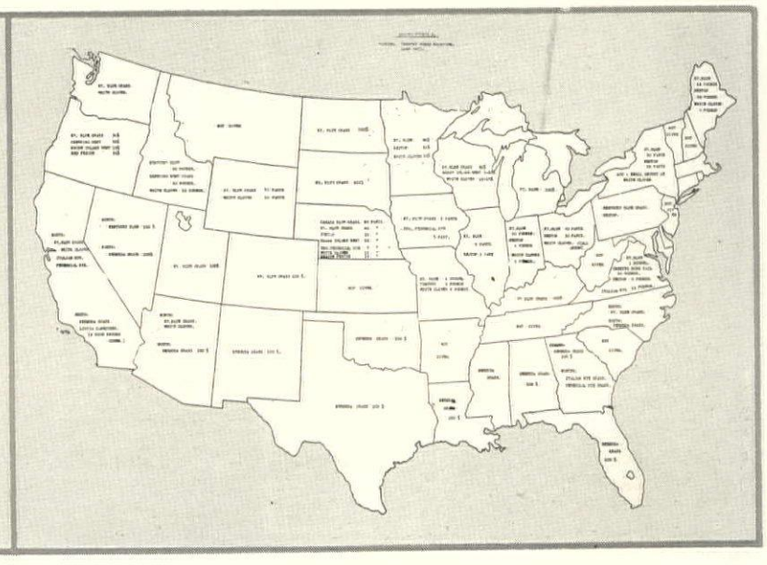
The third or southern division, shown by the shaded portion of the map, is the region where Bermuda grass is the standard for lawns. A few other varieties are used in special cases, but Bermuda grass has thus far exceeded all others for common use. The chief exception to the general use of Bermuda grass in this region is St. Augustine grass. This has proved to be better adapted to shady conditions than the other and is consequently becoming more popular for this particular use.

(*Continued on page* 74)

In Fig. 2 the country is divided according to the regions to which the principal lawn grasses are adapted. The unshaded portion consists of those States where Kentucky blue grass is the standard for virtually all situations. In the gray areas Kentucky blue predominates in the north, and Bermuda grass in the south. The black sections are those for which Bermuda grass is the standard sort

Additions to the map in Fig. 3, for a loam soil in sun, are: Rhode Island, 7 lbs. Kentucky blue, 7 lbs. redtop, 7 lbs. Rhode Island bent, 7 lbs. white clover. Connecticut, Kentucky blue, R. I. bent, white clover. Massachusetts, 45% fancy Kentucky blue, 20% fancy redtop, 15% R. I. bent, 15% Italian rye grass, 5% white clover. Md., 10 qts. Kentucky blue, 8 qts. R. I. bent, 3 qts. English perennial rye





THE GATE INSIDE THE HOUSE

A Medieval Precaution That Has Become a Decoration Today

GILLIES

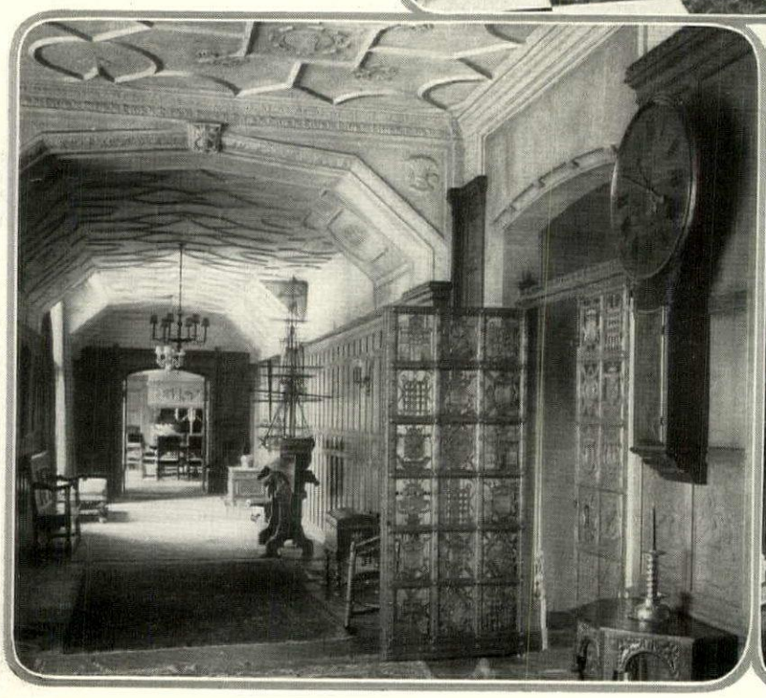
In old times castles were provided with inner gates of iron and wood designed to withstand attack should the enemy penetrate the inside walls. After the adoption of gunpowder, and with it the ability to destroy from a distance, the efficiency of such a method of defense was ended. But as the gates presented a certain decorative value, they were refined into ornamental forms. And that is the romance behind these gates that open into the music room of the residence of William McNair, Esq., in New York. H. Van Buren Magonigle, architect

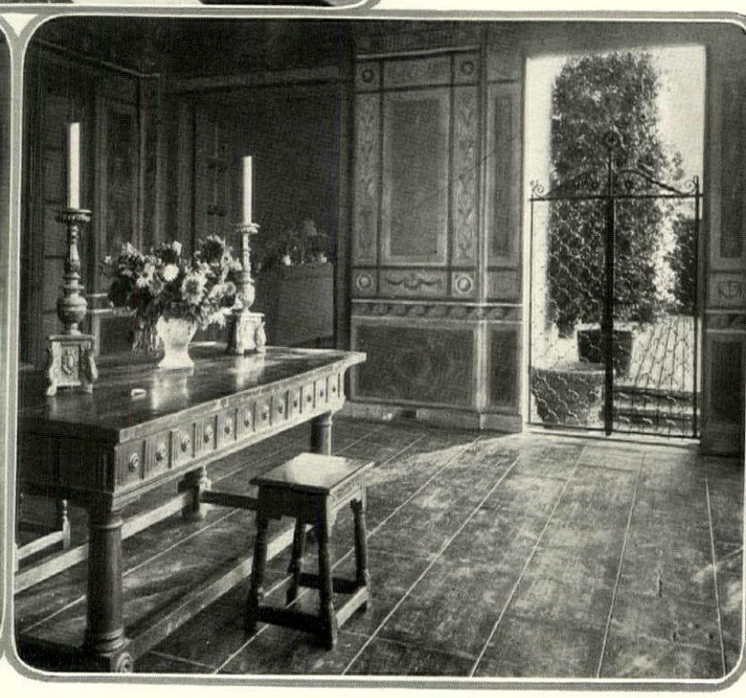
In the New York home of Reginald DeKoven, the composer, is a wooden Tyrolean gate placed between the entrance foyer and the stair hall. Door openings to receive the gate were designed by John Russell Pope, architect of the house

Between the entrance lobby and the main foyer in the New York apartment of Murray Guggenheim, Esq., are gates of the period of Louis XIV. They are of black wrought iron with decorations in gilt, fashioned after designs by McKim, Mead & White, architects. These illustrate the decorative value of interior gates—they withhold the view beyond and yet do not entirely obstruct it. They mark a division between rooms with less abruptness than would a door or portieres. They also add the significant sense of richness all hand-wrought iron gives

A novel assembling of the coats of arms of various branches of the family has been made on the gates in the residence of Stuart Duncan, Esq., at Newport. The house is Tudor Gothic and the gates are a characteristic decoration of this architectural style. John Russell Pope was the architect

The gate in the residence of H. H. Rogers, Esq., at Southampton, L. I., is after an Italian Renaissance design. It stands between the loggia and the upper house terrace. Although not a typically medieval use, this serves decoratively, being silhouetted against the light. Walker & Gilette, architects





HE DECORATOR AS AUTHOR

Eight New Books Presenting Eight Viewpoints On the Art of Interior Decoration and Architecture

T is only fair that those who work the miracle of good taste preach its gospel. Decorators, like good wine, need no bush, it they deserve explanation. The touchone of good taste that they employ has ade both them and their work not a little ysterious to those who have never chanced fall into the merciful hands of a decotor. And they are merciful hands, for ith rare diplomacy they guide a client's oice into the right path.

But is there only one path? Scarcely. ere are eight books by as many decotors, and while all claim allegiance to the me fundamental rules of decoration, each terprets them in a different fashion.

THERE is "The Art of Interior Decoration" by Grace Wood and Emily Burnk (Dodd, Mead, $3). In a crisp, direct, adable style the authors have set down the cts of decoration as their varied experices have proven them. Every phase of e house is considered, including some that corators usually neglect—rooms such as e bathroom and the servants' quarters. here are short chapters on the periods, on llecting, on table decoration and pictures, name but a few. The why and wherere of each principle is clearly explained. ou hear an old message in new words. nd the new concept these decorators prent is the idea of considering the room as picture—a rounded, complete setting for e. Excellently illustrated, admirably prented, "The Art of Interior Decoration" one of the few really good books which ve appeared on this subject.

ANOTHER approach to the house in good taste is made by Amy L. Rolfe in nterior Decoration For the Small House" Macmillan, $1.25). It is written with the holly laudable purpose of making people ith moderate means apply those means to e best advantage in the decoration of eir homes. And to that d it lays down the funmental principles of nvenience and comfort at we all demand. Curnt prices also give me idea of what the provements in the me will cost. A conding chapter on how go about studying inrior decoration is a luable feature.

THE HEALTHFUL HOUSE," Lionel Robertson and C. O'Donnell (The ood Health Publishing ., $2), approaches the coration of the home om the angle of its fect on the health. What we have attempt," the authors say, "is insist upon the health portance of beautiful lors and beautiful lines and masses, beautiful wall and floor coverings, equally with fresh air and light—to present to the reader, in short, a house that is healthful because it satisfies the demands of hygienic and esthetic sense alike."

A FOURTH interpretation of the decorative principle is found in Hazel H. Adler's "The New Interior" (The Century Co., $3). The sub-title reads, "Modern Decoration for the Modern Home." To show how the modern movement has developed, the author surveys its various expressions in the different fields of art, and then goes on to explain how decorators are doing their share in the work. This subject was explained at length in "What Is Modern Decoration?" in the April HOUSE & GARDEN. It is mainly a liberal use of strong color, the employing of craftsmen in the work, and an attempt to find color schemes and lines other than those of the accepted periods and their current adaptations. How much of the movement is passing fad would be difficult to say. A close student of decoration is apt to criticise this book, however, for including much material that is far from modern. Surely Ralph Adams Cram would not consider his private chapels—fashioned along the lines of those in the Pyrenees—as being modern. They are distinctly medieval. That craftsmen are employed in the work seems to be about the only reason for their being called modern. The value of this book lies in its survey of the recent art movements, in its chapter on new groupings of color and its excellent illustrations.

A LITTLE handbook by Helen C. Candee, "Jacobean Furniture" (Stokes, $1.25), is a detailed study of a period for which Mrs. Candee is well known. Those who have used her "Decorative Styles and Periods"—and who has not?—will find this monograph of equal interest and help.

IN the "Practical Book of Early American Arts and Crafts," by H. D. Eberlein and Abbot McClure (Lippincott, $6), the authors have set forth the fascinating results of the various forms of craftsmanship practised by our forebears of the Colonial and post-Colonial periods. The record cannot fail, in the first place, to promote greatly an intelligent appreciation of the sundry decorative art manifestations discussed, whether on the part of the habitual collector or of the chance admirer and occasional purchaser. In the second place, it cannot fail to spur modern crafts-workers to emulation of their predecessors' performances either by reproduction or adaptation. Indeed, one important item of the book's appeal is found in the stimulus and inspiration it affords the present-day craftsman and craftswoman.

The subjects covered include early American silver; glass; decorative metal work in iron, brass, copper, lead and tin; pewter; pottery, both within the present bounds of the United States and the majolica of early Mexico; decorative painting on household gear in its many ramifications; early portraiture and allegorical painting; weaving; handblock printing on fabrics and paper; carving in wood and stone; and, finally, lacemaking, this latter chapter being contributed by Mabel Foster Bainbridge, who has done more than anyone else to revive this ancient craft.

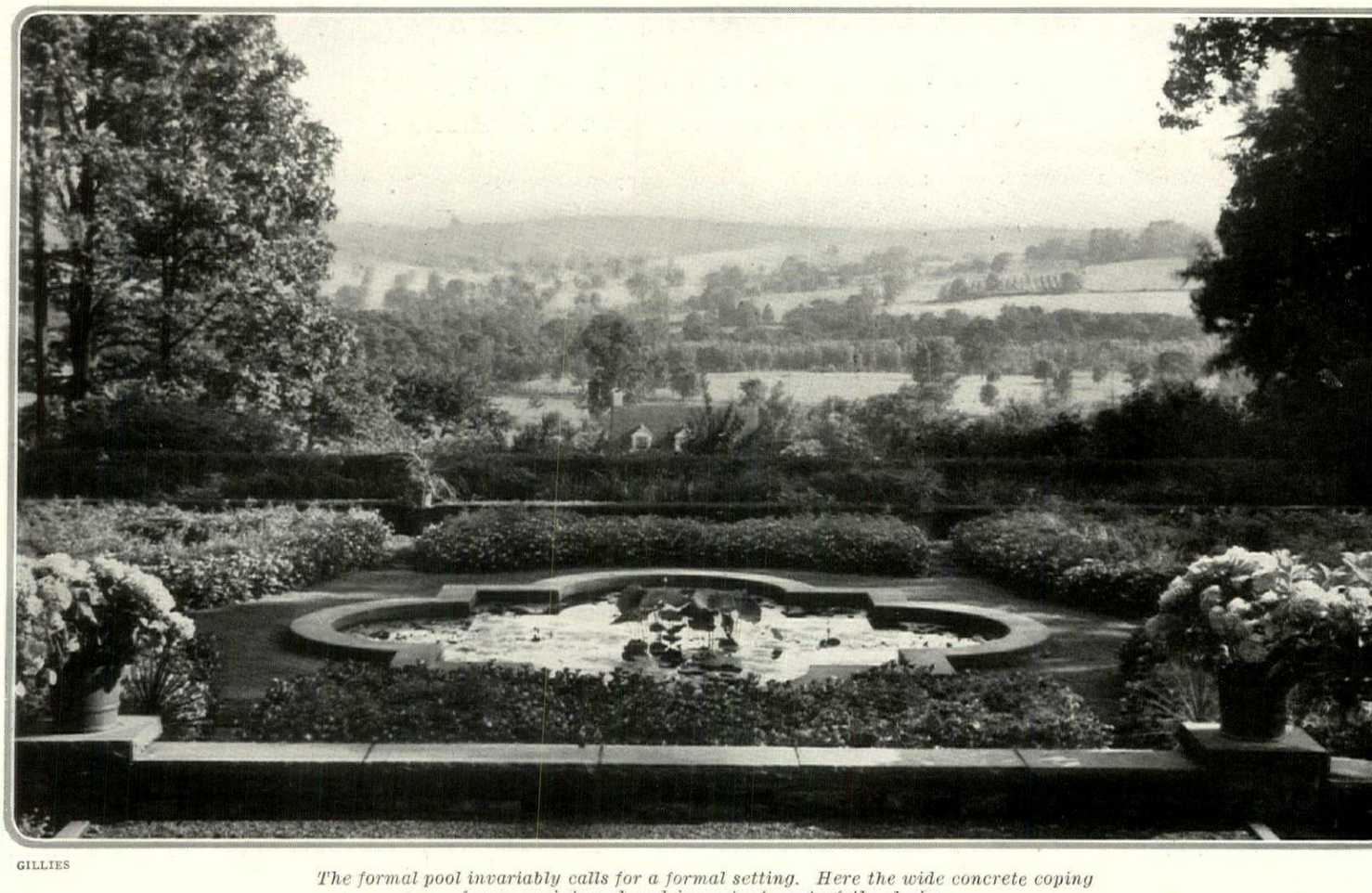
The book, as its title implies, is thoroughly practical, in that it supplies exact data for the collector—witness, for example, the silver chapter with its list of silversmiths and their marks—and also an exceptionally readable and comprehensive volume of reference for the average person interested in one or another of the early decorative art manifestations. Furthermore, the presentation of subject matter has great suggestive value pointing to the ready possibility of a revival and adaptation of the old crafts for the enrichment of our architectural and interior decorative resources.

In "The Art of Interior Decoration," by Grace Wood and Emily Burbank, is shown a Directoire dining-room of rare distinction that is indicative of a style which will be in favor in the near future

TO this list of books on decoration we add two on architecture.

"Domestic Architecture," by L. Eugene Robinson (Macmillan, $1.50), is a handbook designed for the layman and beginning student of architecture who would understand the principles that must be observed in building a house. It fits its purpose well. In addition to the ordinary facts of history and building are well written chapters on costs, on the practice of architecture and the relation between architect and client that will be found of value.

(*Continued on page* 72)



GILLIES

The formal pool invariably calls for a formal setting. Here the wide concrete coping forms an integral and important part of the design

THE FINAL TOUCH TO THE LANDSCAPE SCHEM

Is Supplied by the Water Feature, Be It Pool or Fountain, Stream or Lake—Suggestions for Planning, Construction and Care

ROBERT S. LEMMON

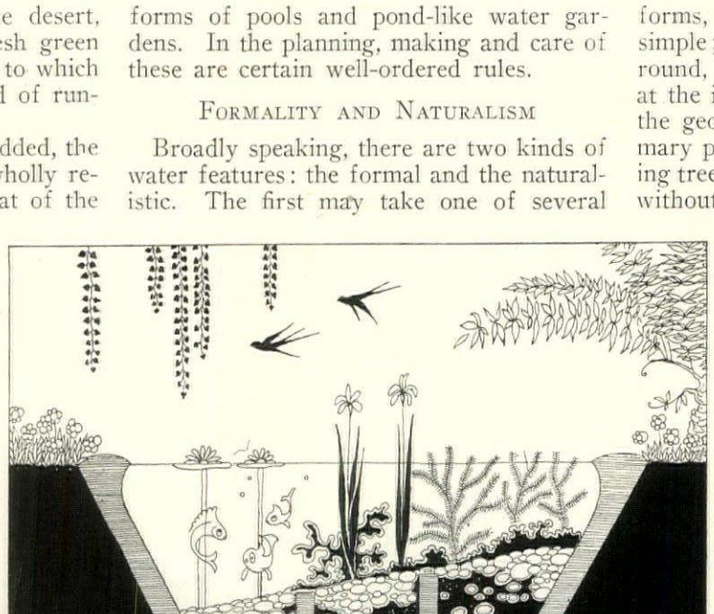
"AND when you have left the desert, and come again to the fresh green of the river valleys, the last thing to which you grow accustomed is the sound of running water."

The last thing and, it might be added, the most welcome and soothing and wholly refreshing thing. In the glaring heat of the cactus country one misses keenly the softening effect of water in the landscape. By day, at least, the desert lacks intimacy, and when the reason is analyzed it is found to lie largely in the absence of flowing streams. For whether in Nature's gardens or in our own small imitations of her handiwork, water as a purely esthetic feature fills a place which no other one element can hope to attain.

There is no need here to dwell upon this humanizing influence of water in our gardens—our interest is centered rather on how it can be brought to serve our needs. The running brook admits of the greatest variety of effects, perhaps, but for comparatively few of our gardens is it available. Most of us must of necessity turn to the various forms of pools and pond-like water gardens. In the planning, making and care of these are certain well-ordered rules.

Formality and Naturalism

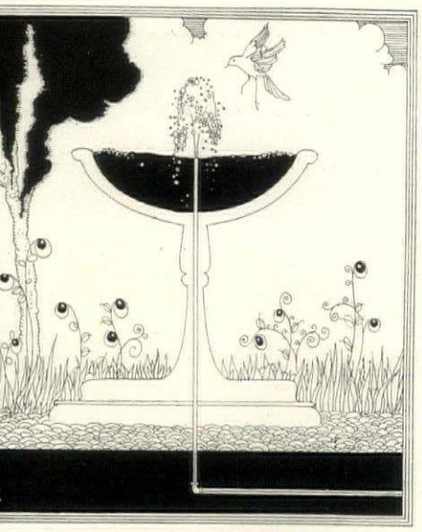
Broadly speaking, there are two kinds of water features: the formal and the naturalistic. The first may take one of several forms, such as the fountain basin pure a simple; the lily pool of regular conto round, oval or rectangular, placed usua at the intersection of the garden axes; a the geometrically accurate pool whose p mary purpose as a mirror of the surroun ing trees and architectural features is serv without the use of any water plants.



A cross-section of the concrete lined pool shows the sloping arrangement of the soil and the partitions to hold it in place

It is not my purpose now take up in any detail the subje of garden fountains and their a cessories, as these fully deser an article all to themselves. T day one can find in the op market all manner of founta designs especially executed f garden use, and the only co fronting problem is the selecti of that one of them which w harmonize best with the planti scheme in general, and the exa location in particular.

All of these fountains, course, have one point in co mon: they call for a source supply which has enough for to cause the water to flow fro the opening provided for Provision must also be made carry off the surplus water whi the fountain is in operation. some cases this overflow can



The automatic and intermittent jet is simplicity itself. Some arrangement must be provided to take care of the overflow

ized to irrigate part of the garden proper. in the more formal scheme it may be ried off through an underground pipe.

THE INTERMITTENT JET

Should you not care for any of the contional "architectural" fountain designs, I wish something simpler, several good sibilities lie in the various forms of jet angements which anyone with a little inuity can install. One of the most eftive of these is the intermittent jet which rates as regularly as clockwork, quite to mystification of the uninitiated beholder. This system is almost absurdly simple, entirely automatic in operation so long

(*Continued on page* 70)

GILLIES

Where space permits, a series of connected pools is sometimes desirable

Proper planting leaves much of the surface to fill its place as mirror

Perfect symmetry and surroundings, a water treatment seldom equaled

DEFINING COLONIAL ARCHITECTUR

Precedents and Their Modern Adaptation

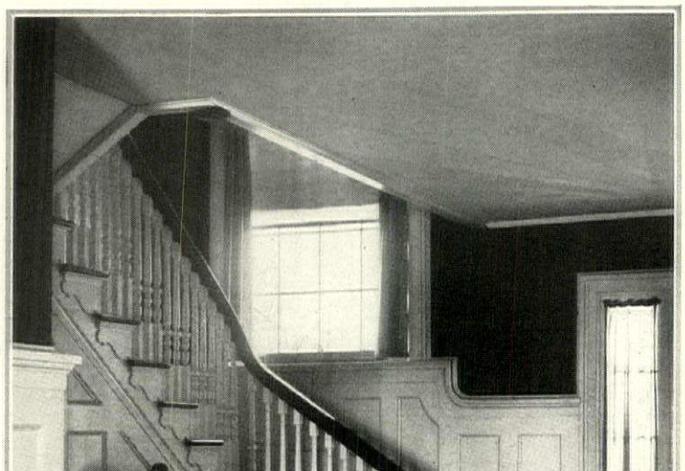
The Colonial Pl
WILLIAM B. BRAGDO

WHAT is actually meant by the much discussed Colonial type of architecture?

To the layman the term "Colonial" may vaguely suggest a column, or perhaps some antique dilapidated farmhouse, devoid of modern comforts, the habitat of our rugged and unpolished forefathers. In the South, to be sure, the plantation idea creeps in with visions of hoop skirts, banjo clocks, smokehouses and slave quarters. One recollects a massive pillared portico, and a monumental staircase seen on entering the front door.

Here might be a good start in itself, but most of us get no further than a gabled house with a porch across the front, supported by a series of columns. Houses of this type are seen everywhere, and they are all referred to as Colonial. No wonder the prospective housebuilder is either frightened at the suggestion of a Colonial house, or else believes himself thoroughly versed in its style.

Let us see where he can be enlightened and brought to a better understanding and appreciation of the subject.



HOLLINGSWORTH & BRAGDON, ARCHITECTS

The stairs are made the principal architectural feature of the true Colonial interior. This is the uncommon type

The history of architecture teaches us that the periods or schools in its development have been brought about by the spirit of the age. If we look for the spirit of Colonial times, we find that the answer is undoubtedly simplicity. The buildings constructed in the early settlements from Maine to Georgia bear a striking resemblance to each other, and have all this quality of simplicity. No matter how imposing or how primitive the structure may be, whether it is a manor house on the James River or a farmhouse on Cape Cod, there is an unmistakable element of refinement and domesticity about it.

It is not so difficult to locate the origin of our so-called "Colonial Architecture" as it is to recognize its forms.

During the early years of settlement of our country, housebuilding was confined to meager shelters of the log cabin type, but as the population increased and the hardships of pioneer days lessened, a more substantial and permanent form of dwelling was sought. Many men in the Colonies who had been trained in the mother country as builders and cabinet makers were now called upon to reproduce in the land of their adoption the style then in vogue in Europe. This style was known as Georgian, and its antecedents were classic. Its chief characteristics were simplicity and refinement throughout.

Tradition and Utility

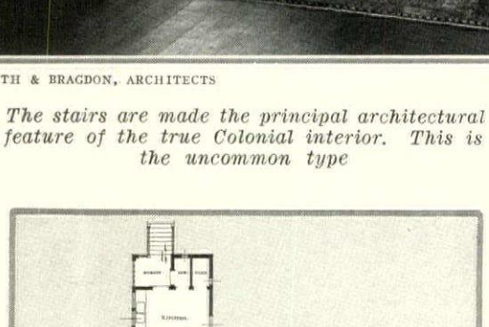
These qualities won for it quick favor in this country, and an adaptation of the architecture of the Georges began at once to spring up in the Colonies, departing from the traditional influence only the limitations imposed by bu ing materials and the purse of builder demanded. On accoun the lack of brick and the g wealth of unclaimed fore Colonial designers almost ex sively made use of wood. richer population did import b at times, but the majority of houses were frame.

Another element that influen the character of the Colo house was its general isolat and exposure, which demande compact all-under-one-roof rangement, easier to protect also to heat.

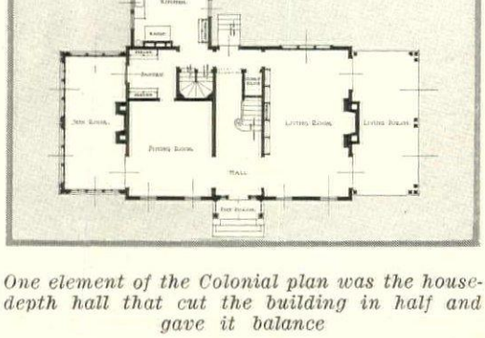
On account of the extremes climate between Maine and Carolinas we find practical ne sities producing different det such as the high first story free use of the porch in the So and the Northern type of entra simple and flat to the ground. in spite of minor variations of sort, the arrangement of room ornamental detail is consist throughout the house.

From origins like these, th Colonial architecture had its The sources from which the p ent day architect draws his inspiration Colonial work are principally located in near Salem, Mass.; the James River Virginia; Charleston, S. C.; and Savann Ga., although there are many excellent amples extant in every one of the thirt original States.

What are the characteristics of the st we refer to as Colonial? Since the f discussion of a house should concern relation of its parts, we shall begin with plan in general.



One element of the Colonial plan was the house-depth hall that cut the building in half and gave it balance



The second floor is usually a repetition of the first, the hall making a division of rooms that can be elaborated

The Colonial Plan

A "Colonial" plan consists of a narr hall continuing through the center of house from the front door to the rear, th cutting the building in half. The sta which with the fireplace mantels form principal architectural decorative featu of the interior, rise from this hall to second story. From the entrance hall right and to left two rooms open off on ea side; these rooms are usually of eq dimensions, and their separating partiti stand at right angles to the direction of hall. There are fireplaces in all the roo arranged back to back in pairs with a sin chimney in the center of the dividing pa tion; or each fireplace may have a separ chimney on the outside wall of the roo These rooms were used as reception ro and library on the one hand, and par and dining-room on the other. If the hou was a small one, the reception room w used as a dining-room and the room yond as a kitchen, although it was m usual to locate the service quarters in attached one-story wing with a lean-to ro

the rear of the dining-room. Often find only one large room on one e of the hall, which has come to be led our living-room. In the smaller ns we find no porch at all, except at the nt entrance or possibly a small one at rear—but in the pretentious houses rches were placed at each end of the lding, accessible from the reception m and library on one side and the lor and dining-room on the other.

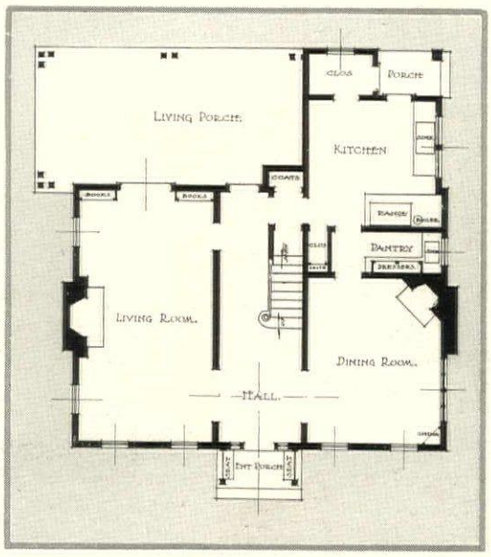
The stairs were made the principal hitectural feature of the interior, be-se they were near the entrance door, l also admitted light to the lower hall m a window on the landing or at the of the stairs. In some cases the stair n a continuous run from floor to floor, l in others it is in a long run to a land- and a short return back. The balcony med in the latter case is an attractive nt on account of its balustrade. The re elaborate examples have either two s of stairs, one against each wall, con-ing to a common landing and return- in the center; or a central flight to a ding, returning in two separate runs, er in the opposite direction or to right left, respectively.

However, however, many departures from any d rule are made by introducing inter-diate landings where the stairs box in ee side walls or graceful circular runs m a first to an attic floor. Still the e mentioned above may be called the al one—a single stairway against one l with a long run to a landing and a rt return. The landing is placed high ugh for passage under it to the rear r in the hall below by means of an ned opening.

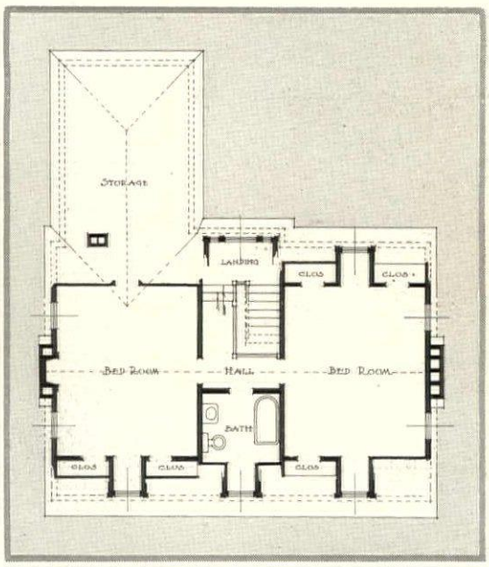
Second Floor Arrangements

On the second floor there is a repetition the first story hall in the center, with bedrooms on each side over the rooms w. There is no bath, and rarely a shed attic story or a cellar.

In adapting the Colonial plan to modern uirements, the small front entrance, row hall and single rs have been main-ed, with a large ing-room on one e, and a dining-m on the other with hen and pantry be-d. A service stair also introduced in nection with the nd floor, or a short to the main stair ling. A fireplace is ally located in the er of one side of living-room with chimney on the side wall, and a responding chimney the middle of the side wall on the osite side of the use. This latter nney is used for the hen flue, and pos-y for a corner fire-e in the dining-m. In the modern se, there is general- porch at one end, an enclosed porch,



The modern plan shows a pretentious entrance to the hall and wide openings between rooms



A simple division of the upstairs rooms shows balanced bed chambers and one bath

or sunroom, balancing it at the other.

The second story contains, as in former times, the central hall and four chambers, with the addition of a bath at the front end of the hall. Sometimes a large owner's chamber is located over the living-room, and an extra bath may be introduced between two of the bedrooms by permitting one of them to be carried out in the rear, in case there is a kitchen extension.

The Attic and Cellar

Often the attic is finished with two rooms, one at each end, and a store closet or an additional bath arranged in a position similar to the bath below. In this case the main stair continues to the attic, either forming an open well to the first floor, or closed off at the beginning of the attic flight by a door and a partition.

As a final improvement on the old type of Colonial house, the cellar is excavated for furnace or boiler, laundry, preserve closet and toilet.

Throughout modern work, some general variations from the original plan are permissible, variations made excusable by the fact that customs and conveniences have altered so materially since Colonial times. The requirements of good house planning today are in certain respects radically different from those of three generations ago, and he would be an ultra-lover of the antique who would insist that they be disregarded merely for the sake of adhering line for line to the traditional examples.

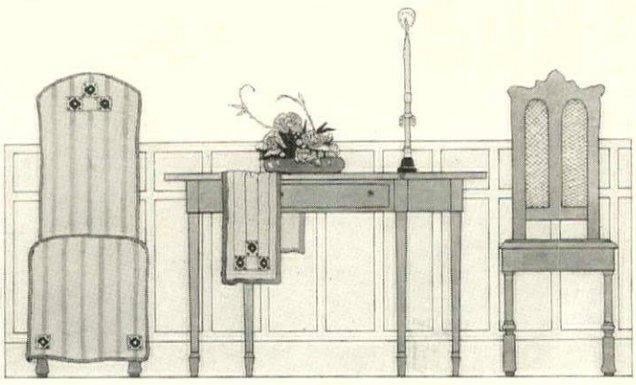
Yet it goes without saying that the 20th Century reproduction of a Colonial house may be varied only with extreme caution, else it will lose that atmosphere which is one of its architectural excuses for existing at all. Too frequently we find this atmosphere sadly impaired in the completed house, even though the original conception may have been virtually correct. Period reproduction of any sort can be successfully carried out only by one who has full knowledge and appreciation of the historical precedents.

Comparatively few laymen have the time to attain such a mastery of Colonial architecture, or the natural aptitude to apply it consistently. Special training in the fundamentals of the plan as well as the details of its development is essential to success. That this training is seldom possessed except by a professional architect is no more than natural.

(This discussion of "Defining Colonial Architecture" is to be continued in two other articles which will take up exterior design and interior treatment respectively. They will appear in the July and August numbers of the magazine.)

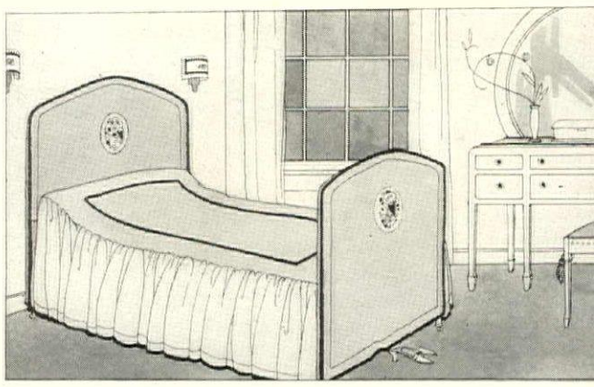
The usual Colonial stairs have a run to a landing and a short return, the landing being placed high enough for a door beneath it

CONVENIENT DEVICES FOR THE HOUS



Slip covers can cover up a multitude of objectionable features in a chair

This page is reserved for ideas and devices that save labor or make the house more comfortable and convenient. An idea is worth a dollar. We will send the dollar to you if you will send your idea to House & Garden, *19 West 44th Street, New York City.*



For a summer change, why not dress the bed in a cool, clean slip cover?

SLIP COVERS

ONCE on a time we thought of slip covers only as a summer device to keep the house looking cool and clean. So soon as autumn came we packed them away. Now they have become an all-year device and in that capacity they serve a multitude of purposes. Besides keeping the upholstery beneath them free from dust, they cover up objectionable features of line and ornament which could otherwise be removed by changing the chair or getting rid of it entirely. In addition the cover offers an opportunity to give the room an interesting color spot.

Instead of having to battle into the closet, the extension rod brings the frocks out to you

SEASONAL CHANGI

IT is unwise to tire of your furnit If you must live in a house the y round, see that distinct changes are m when summer comes. Of course, you h always done this with the living-room porch, but has it occurred to you to m your bedroom summery? In place of heavy curtains put up scrim or net cover the rug with denim. With white natural colored linen make a cover for foot and head boards. It can be stenc and the edges piped with a gay color cre Over the bed itself throw a cover. To sides can be attached a full valance.

FOLDING WINDOWS

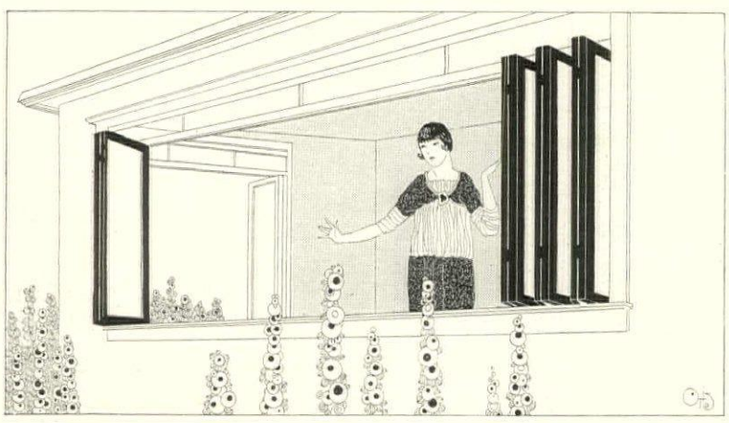
THE porch or breakfast room should be built so that it is ready for all changes of weather. To meet that requirement have been discovered the folding windows which do away with the bother of having the windows removed when summer comes, and prevent the sticking, leaking, and rattling of windows loosely hung. These windows work easily and quietly, they open outward and do not interfere with screens; they are self-adjusting, staying just where you place them. In a minute the porch can be enclosed against the sudden summer storm and in an equally short time opened to the cooling breezes.

THE CLOSET SLIDE

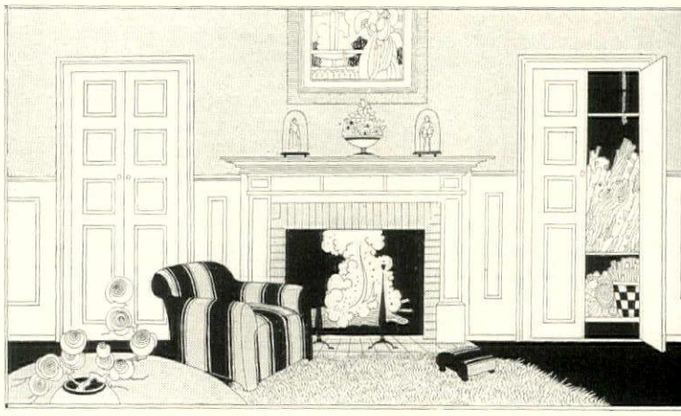
NOT a one of us but knows the bother of diving blindly into the depths of a dark closet for that coat we hung a month ago on the last hook to the back. And when we do find it, we have to wiggle our way out. Here is a device which removes that trouble. It is an extension rod attached to the top of the closet. You pull the rod, the entire line of clothes rolls out within reach, and you make the selection easily.

A WOOD WAITE

YOU are sitting beside the fire and last log glows and pales into ashes. terly lazy, you would rather freeze thar down to the cellar and stagger back w an armful of wood. Why not then arra for a wood waiter as a closet beside the f place? It can be readily built by any c penter,—a box with ropes and weights make the raising easy. A shelf will div it into two compartments, the upper larger one for logs, the smaller one kindling wood and paper. The man w tends the furnace will see that the wa is always loaded with kindling and logs, all you will have to do is unload it.

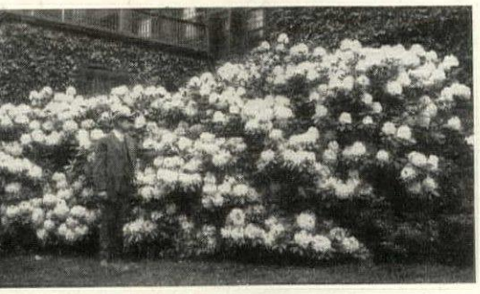


Porches and breakfast rooms furnished with folding windows are ready for any sort of weather at all times



The dumb-waiter for wood, arranged in a closet by the fireplace, will save many a journey to the cellar

June — THE GARDENER'S KALENDAR — Sixth Month



The dead flowers should be removed from the rhododendrons as soon as they finish blooming

Go over the evergreens twice a year to keep them clipped to shape

Right after blooming is the time to prune flowering shrubs like spirea, etc.

Boxwood hedges should be trimmed now. Use the regular hedge clippers for this

If you have no wheel hoe, better get one and keep it working this summer

SUNDAY	**This Kalendar of the gardener's labors is aimed as a reminder for undertaking all his tasks in season. It is fitted to the latitude of the Middle States, but its service should be available for the whole country if it be remembered that for every one hundred miles north or south there is a difference of from five to seven days later or earlier in performing garden operations. The dates given are, of course, for an average season.**	*George V born,* 1865. 3. Sow now for fall, cabbage, cauliflower, rutabaga, broccoli, celery, kale and Brussels sprouts. For succession sow lettuce, beets, carrots, corn, beans, endive, peas, etc.	10. You can't kill rose bugs with poison. They are borers, and if your rose bed becomes infested you must resort to hand picking, dropping the bugs into a pail containing a little kerosene.	17. What are you going to do to protect your strawberries from the birds? A fish net stretched 1' above the bed is best; mosquito netting excludes the air and spoils the berries' flavor.	24. Keep your potatoes well cultivated, but don't hill them up until the plants show flowers. They must be sprayed with poison to kill the beetles, and Bordeaux should be used for blight.
MONDAY		4. Bedding out of all kinds should be finished. Keep the plants pinched and well cultivated, and always have a few extras handy to replace any that may die or be broken and set back by accident.	11. All kinds of climbing plants should be gone over and new shoots partially trained, at least. If this is done now it will save many shoots from breakage or growing in undesirable places.	*Battle of Waterloo,* 1815. 18. Forsythia, lilac, exochordia, spirea and other spring flowering shrubs should be pruned just as soon as they finish blooming; remove all old wood at the base.	25. Don't be afraid to pick flowers—if this is done properly it won't harm the plants. Use a pair of scissors when gathering flowers, and do the cutting early in the morning. Plunge flowers in cold water.
TUESDAY	*Here in this sequester'd close* *Bloom the hyacinth and rose,* *Here beside the modest stock* *Flaunts the flaring hollyhock;* *Here, without a pang, one sees* *Ranks, conditions and degrees.* *All the seasons run their race* *In this quiet resting-place;* *Peach and apricot and fig* *Here will ripen and grow big;* *Here is store and overplus,—* *More had not Alcinous!* *—Austin Dobson.*	5. Hedges require attention now. Clipping on all types is timely. Considerable tying in is sometimes necessary with an old hedge; this of course should be attended to before clipping is done.	12. When the melon plants fill their frames, the latter should be removed, the plants spread out evenly and pegged down in the desired position. Then spray regularly with Bordeaux mixture.	19. Don't neglect to stake your tall flowers before a sudden storm blows them down. Hollyhocks, sunflowers, rudbeckia, heleniums, dahlias, lilies, campanulas, cosmos all need adequate staking.	26. Sash frames or greenhouses that are being used during summer should have a slat trellis or some other form of shading. Don't use whitewash on the glass, as it gives too much shade.
WEDNESDAY		6. If you have not already sown your flower seeds, they should be attended to at once. Practically all the annuals may be sown, such as calliopsis, asters, calendula, phlox, stocks, and others.	13. Don't neglect the orchard. Keep a sharp lookout for "yellows" in your peaches and cut down and burn any diseased trees. Look out for the dangerous "fire blight" among apples and pears.	20. On all newly planted trees, shrubs and vines, a mulch during dry weather is better than continued artificial watering. It should surely be applied to single specimens, at least.	27. Spraying is always necessary around your grounds. Use arsenate of lead or Paris green for leaf eaters, nicotine or kerosene emulsion for sucking insects, and Bordeaux for fungous diseases.
THURSDAY		7. Stop cutting asparagus just as soon as your peas come into bearing, and earlier with young beds. Give the bed a top dressing with salt, keep the weeds down, and watch for asparagus beetles.	*Flag Day.* 14. Sweet peas must never be allowed to suffer for want of water. When necessary to water them give the ground a thorough soaking and then apply a good heavy mulch.	21. Carnation plants in the field should not be neglected, as next winter's flowers depend largely upon the growth made now. Keep the ground well stirred and pinch the plants to induce proper growth.	28. The dead flowers should be removed from the rhododendrons. Break off the old flowering shoot, using the thumb and forefinger and being careful not to injure the new shoot in doing so.
FRIDAY	1. Bulbous plants such as tulips, narcissus, etc., can now be dug up and placed in a dry, sheltered place to ripen. These bulbs can be used for planting again in the fall.	8. All kinds of formal evergreens such as boxwood, retinosporas, yews, etc., should now be clipped. Even though you don't like these trees stiff and formal, they should be clipped.	15. Roses can be improved in quality by the application of liquid manures. Keep the soil well stirred and don't cut the roses to death. All suckers from the root should be cut out.	22. Keep your tomato vines thinned out and tied up if you would have early fruit. Where the vines are allowed to grow wild they fruit late and the fruit is small.	29. Summer pruning of fruit trees that have reached a bearing size is superior to spring pruning. Remove all thin, weak shoots and pinch out the tips when you want to stop growth.
SATURDAY	2. The most important garden work for the month is to thin out crops that require it; hill up corn, beans, peas, etc., stake or brush lima beans and peas; keep down the weeds everywhere.	*Charles Dickens died,* 1870. 9. Don't neglect thinning out vegetables that require it. While doing this remove by hand all weeds in the row which can't be reached with a cultivator.	16. Transplant from seed beds into prepared beds such plants as late cabbage, cauliflower, celery, Brussels sprouts, kale, etc. This double handling is well worth the effort in the better plants resulting.	23. Successional sowings should be made of corn, beans, lettuce, turnips, radish, beets, carrots, and cucumbers. A good gardener never neglects to figure ahead and make sowings at the proper time.	30. Thinning fruit gives the same bulk and a much better quality. Also, don't neglect to bag your grapes; bags made for this purpose can be had from any supply house and are well worth the trouble.

Newly planted trees that are late in starting should be cut back severely

Tie up the tomato plants before they spread unduly. This makes for better fruit

You must hand pick cabbage worms after the plants start to head up

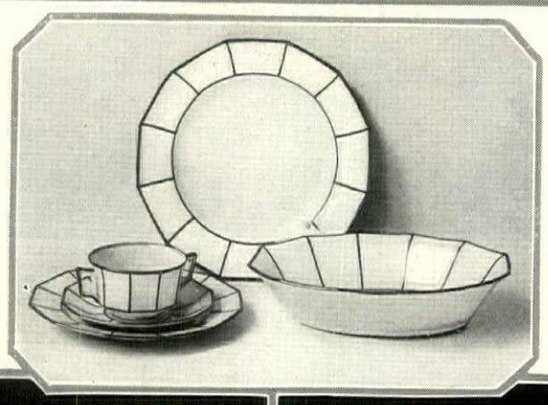
Corn should be well hilled. One reason for this is to stiffen it against the high winds

SEEN I THE SHOP

Suggestions for summer furnishi and accessories are in order. these interest you, they may be p chased through the House & Gar *Shopping Service, 19 West 4 Street, New York. The names of shops will be furnished on requ*

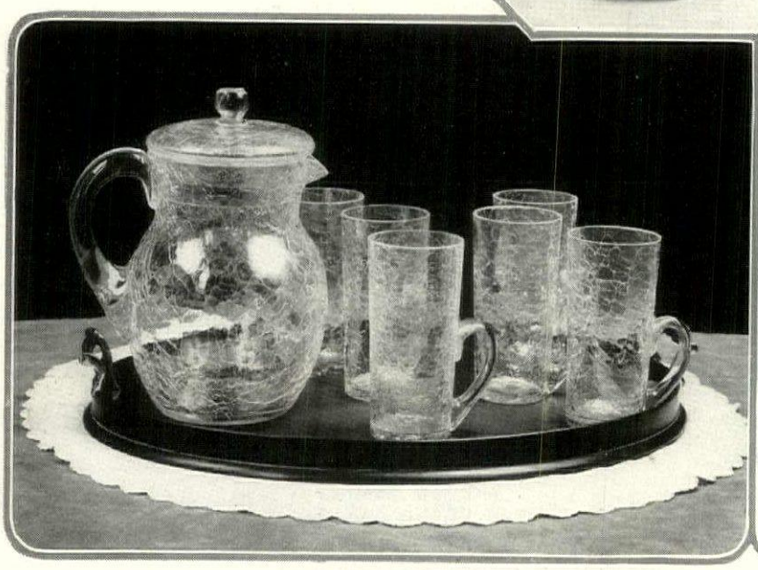
Crystal is now the smart thing for the dressing-table. These Colonial candlesticks, with Chippendale bead design, 9" high, $2.50 each; Colonial tray 12" long, $5.50; cologne bottle, Mayflower cutting, $4.50

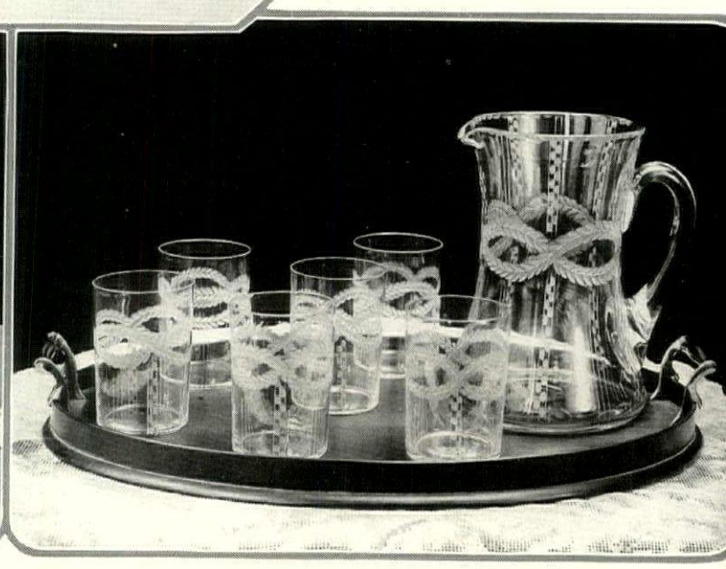
Of cut crystal, this oyster or soup plate—$32 a dozen. Glass cocktail cups, $1.50 per dozen



English dinner service of crystal. Colonial gold decoration. Dinner plates, per dozen, $8; dessert ditto, $5.50; tea cups and saucers, $8; bouillon ditto, $12. Baker, $1.50; casserole, $4.50

You may match your tea set, your breakfast room decorations or your morning gown with a colored china jam jar 3" high. Cover, plate and spoon are of Sheffield silver, $2.50

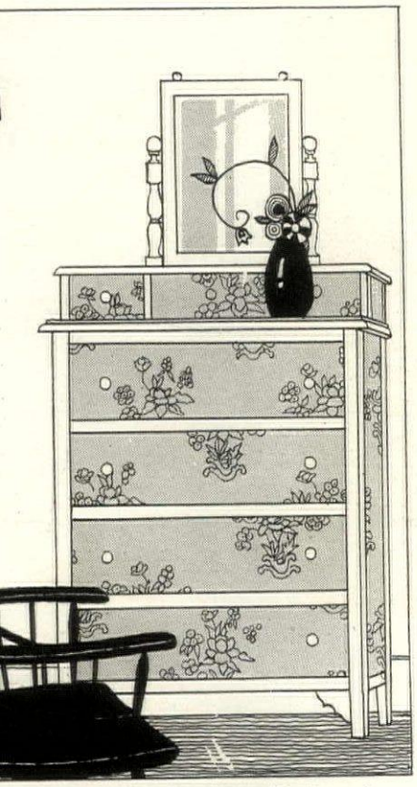




Be it never so lukewarm, iced tea must seem chill and refreshing from a set of crackled glass. The eight pieces come for $5.75

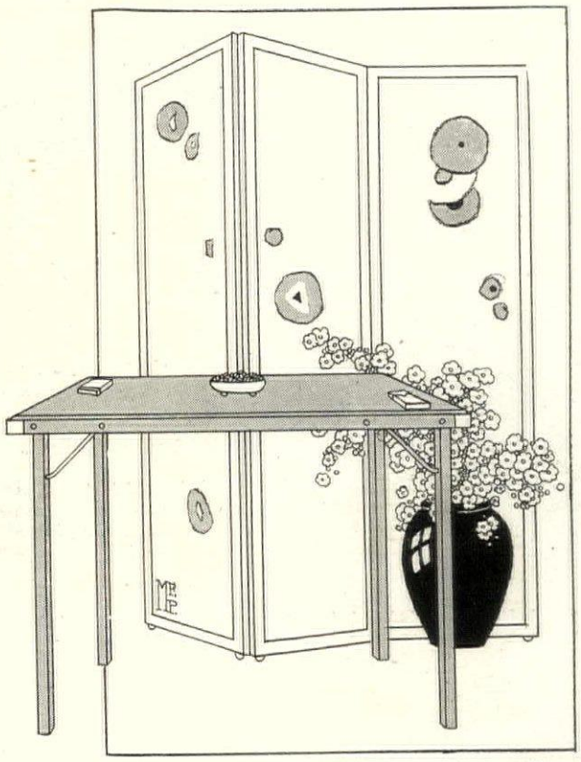
A water pitcher and half-dozen glasses of exquisitely cut crystal—$5 complete. The mahogany serving tray, 19" diameter, costs $4.25

When my lady does not arise, she will enjoy her own particular breakfast china, bordered in basket design with pink flowers. Sixteen pieces, $5.50. Enameled breakfast tray, 23" long, $2.75



hite enamel wardrobe cabinet and
rror, cretonne covered drawers. 16″
30″ by 64″ to top of mirror, $34

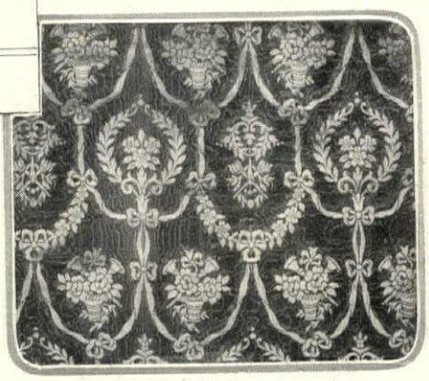
Straw garden basket with trowel, twine, shears and straw cuffs. 10½″ wide, 5½″ deep; black and yellow, $3.50



Felt or cretonne covered folding card table, white, ecru enamel or mahogany finish, $3.75. 30″ by 27″. Leather, $8.50

Brass Chinese hook of interesting design—for flower-bowl, birdcage, etc., $3

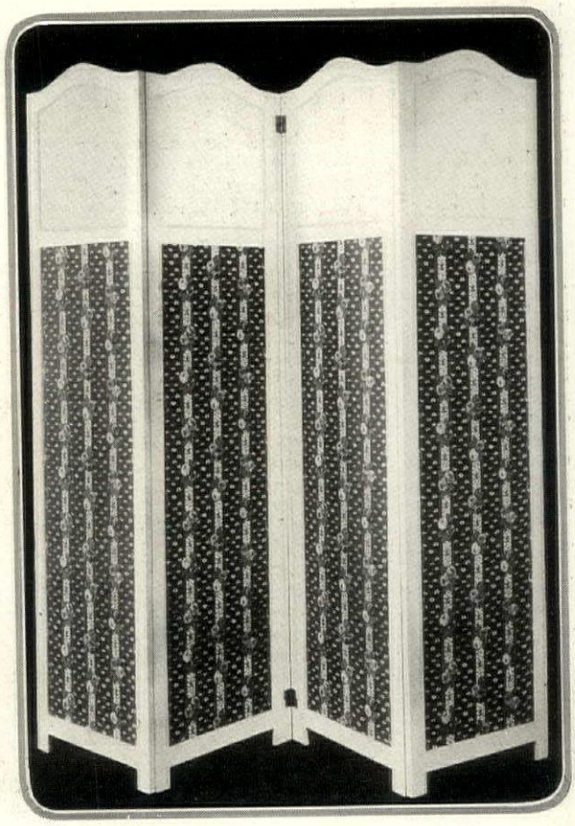
Night set with flower decorations, $7.50. The pitcher has a tightly fitting, dustproof cover



Damask with which table above may be covered, 36″ or 50″ material. Other coverings to order

To the left, the interior of a threefold wardrobe screen, with shelf and hanger. It is 5′ 8″ high, each panel measuring 1′ 6″ wide

Right, the same screen closed. In oak or mahogany with tapestry panels, $33.50. A fourfold screen, in any special color enamel with 80-cent cretonne covering, costs $48



The dust mulch should be maintained in the flower garden as well as in the vegetable section. A claw weeder is the best tool for working around the plants

Cutting flowers will do the plants no harm if you us judgment. As soon as the blossoms fade they shoul be clipped off to prevent their going to seed

IN THE HOT WEATHER TRENCH

D. R. EDSON

These are strenuous days for the gardener. He has been enrolled to help feed the nations. Upon him depends the success of the Allied cause. No days are more critical than these of June, July and August for growing things. Here is the work set out to make the garden yield a bounteous crop. Don't be a slacker!—Editor.

FROM the middle of June to the middle of August it is usually hard sledding in the garden, and particularly in the beginner's garden. This is partly because the garden is new, and partly because the gardener is new. Scorching hot, dry weather comes, plants that grew most enthusiastically in the spring get tired; weeds grow luxuriantly, and if one attempts to pull them up, they carry some of the rightful inhabitants of the garden along with them; plants similar to those that one transplanted readily in the spring, apparently survive the operation now, but within two or three days lie down and die. Even seeds from the same packet that sprouted vigorously in the spring are put in the ground now only to disappear mysteriously—they won't come up themselves, and when one goes to dig them up have vanished entirely!

And yet the garden over the fence or across the way may be green and flourishing, as though the roots in it could reach down to hidden springs, or its owner possessed some magic by which he could ward off this midsummer blight.

Why the difference?

It is not sufficient to put it down to any such general cause as dry weather, or bad luck. The beginner almost invariably tries to find solace in the belief that he should have selected other varieties of vegetables or flowers. Let him not lay that flattering unction to his soul! In nine cases out of ten a selection of varieties, though perhaps not ideal, is the least important of the several factors concerned.

The factors that are always important are: Loss of moisture; lack of air; shortage of plant food; shortage of available nitrogen; and neglected old age of the plants themselves.

How to Handle the Situation

The practical problem of how to prevent these things from interfering with the success of your garden remains, however, even when you realize where the trouble lies. The possession of this information will not only show you what to do, but help to give you courage to keep up the fight against what to the beginner sometimes seems overwhelming odds. To be forewarned is to be forearmed—if you act upon the warning! Let us take the several obstructions to the success of your garden in order, and see what can be done about overcoming them.

From what we have already seen in the preceding articles of the part which moisture in the soil plays in all plant growth, the tremendous and immediate effect which a shortage of soil moisture would have on the development of everything growing in the garden must be realized at once. Yet this form of the slackening up of garden growth is so gradual and insidious that the beginner hardly ever senses the full extent of the damage that is being done. If the cutworms chew off five of fifty cabbage plants, his loss is at once fully apparent—he is likely to report to his seatmate on the way into town the next morning that this exasperating pest has destroyed about half of his cabbage crop. The loss looks to him much bigger than a 10% one. On the other hand, dry weather might reduce the growth of his cabbage plants 30%, compared to what they would have been if a full abundance of moisture had been present, without his thinking much about it. There is perhaps something of a feeling that the weather is sent from Heaven, while Beelzebub supplies the bugs; so that we have more reason for complaint in the latter case. As a matter of fact, the remedy for the former is much more certain and available than for the latter—but leaving that point for still a little later, let us see how

Four main conditions make for good summer vegetables: sufficient moisture, air circulation, plant food supply, and freedom from weeds

to make the most of such moisture as Pro may supply in the normal course of eve

Last month we spoke of cultivation es to "conserve soil moisture." For those w not see that article—and to give a litle m phasis to a thing which can hardly be o phasized—let me repeat briefly what to do

After the first two or three cultivations ings in early spring to get the early crop free from weeds, a light, shallow cultivation be given every week or ten days to keep t face of the soil all over the garden con broken up in the form of a layer of d 1" or so deep. It is particularly important over the entire surface of the garden afte rain. Start your wheel hoe or scuffle ho as soon as the ground has dried out eno as not to be muddy and sticky, and break surface or crust which immediately begins t as the soil dries out on top.

Still more effective than the dust mul rather in addition to it, where it can be u a mulching of light manure, old compost, o of the cut grass and trimmings from the and around the place will help to keep the ture in the soil to an almost incredible I have seen even ordinary field stones or bo from 2" to 4" in diameter successfully u a "mulch" around fruit trees. Among the especially benefited by mulching are curran gooseberries, strawberries, cauliflowers (the mer kind) and egg-plants. A mulch arou tomato plants will help to keep them going frost—without it they may begin to run ou ing the latter part of August. The mulch be put on 2" or 3" deep so as to keep th underneath it shaded from the sun and but it should be light and open enough so air can readily penetrate it. A further a tage of such a mulch is that it helps to sm the weeds which always strive for suprema

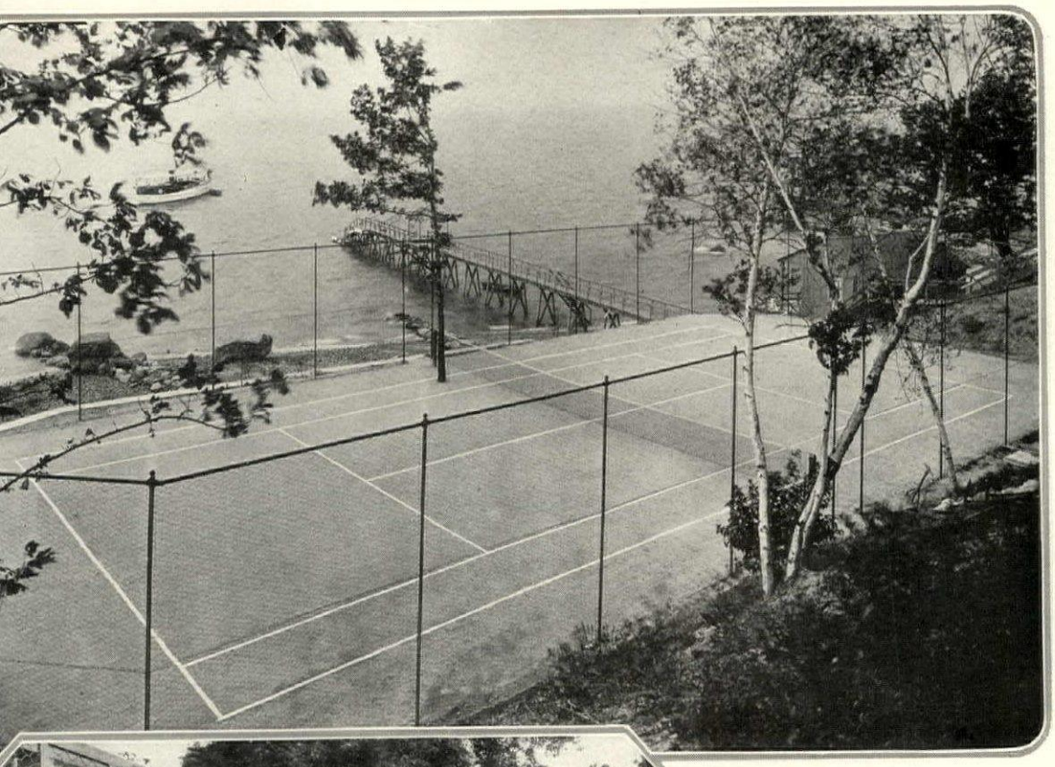
Don't Smother Your Plants

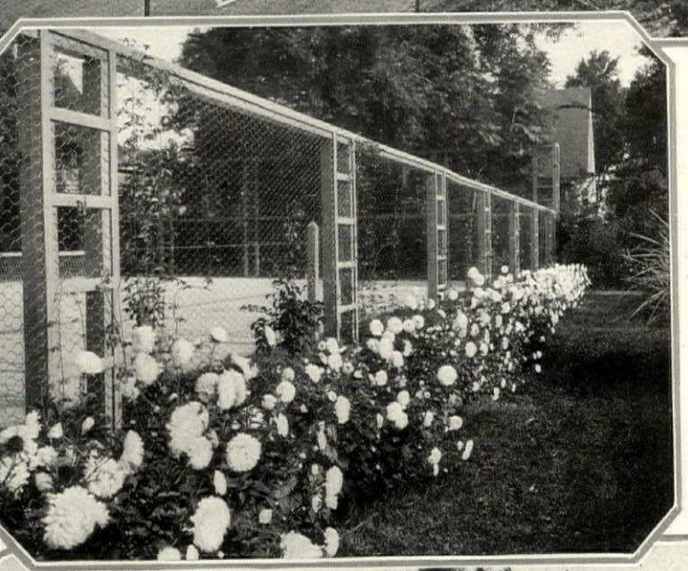
A thorough stirring of the soil around ing plants almost always results in a noti increased or stimulated activity in their gr No soil moisture has been added by this o tion, but two other important things are ac plished. First of all the plant roots ne breathe as well as to eat and drink. Whe surface of the soil is left alone for long inte it becomes tight and hard, and air cannot re enter it. By thorough cultivating, howeve soil is completely aerated and remains so the surface becomes hard again from being w over or neglected. Besides admitting air eac tivation breaks up particles of the soil which escaped previous pulverization, thus exp latent plant food to the moisture and the teria in the soil, converted into forms tha plant roots can use.

So you can see that even in dry weather is every reason to keep your wheel hoe g even though the soil may be dry and the clear and free from weeds.

ENNIS COURTS FOR SENSIBLE SERVICE

ROBERT STELL





A downward slope from one side of the court may remedy drainage troubles

The backstop can be made attractive as well as utilitarian by planting

Another plan is to make the backstop an architectural feature

CAST back in imagination, if you will, to Arthurian days in Merrie England.

On the greensward behind a feudal castle a strange scene is being enacted. Regal ladies in girdled brocades are wildly applauding two knights in armor who cavort clankily on either side of a bank of earth that stretches between a bastion on the one hand and a lance stuck upright in the ground on the other. With his mailed fist each strikes at a ball, striving to hit it to the far side of the barrier where his opponent cannot reach it in time for a return.

From within the closed visors of the two knights come sepulchral mutterings.

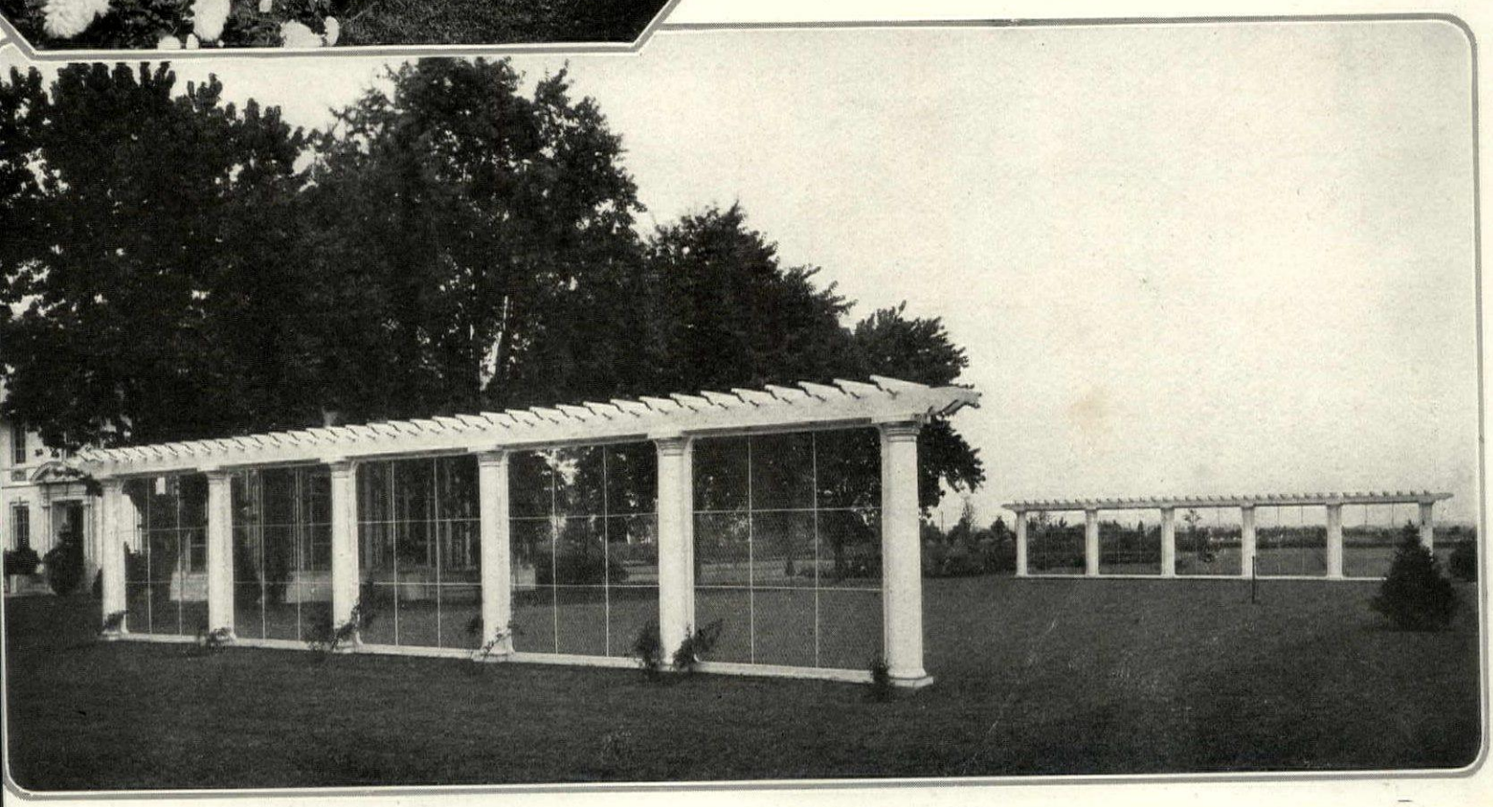
"Forty-fif. — forty-thirty — deuce!— 'vantage in"—or whatever were the Arthurian equivalents of these stirring ejaculations of the courts.

Yes, they are trying to play tennis. Those were indeed the days of real sport, from hawking to hunting the Holy Grail. Of a truth there were giants in those days, as there must have been to wear armor through a hot five-set match—if they ever did. And from then to now tennis has been known and played, a proof, if any were needed, of its worth as a game of wide appeal and undying popularity.

To be sure, the modern game is so widely different from that played by the nobles of King Arthur's and other courts that a casual observer would hardly recognize it. In two respects, however, a similarity can be clearly traced: in both games there were more or less smooth and regular playing surfaces, and in both a division—earth mound or net—separated the opponents' territories. Obviously, tennis cannot be played without a tennis court, and so we come without further preamble to the subject of the present article, the making of a sensible playing ground.

The Location

The first consideration in making a tennis court is the location. A space 60′ x 120′ will be required, the latter dimension running north and south so that the game can be played at any time of day without undue sunlight shining in the eyes of any of the contestants. A site nat-

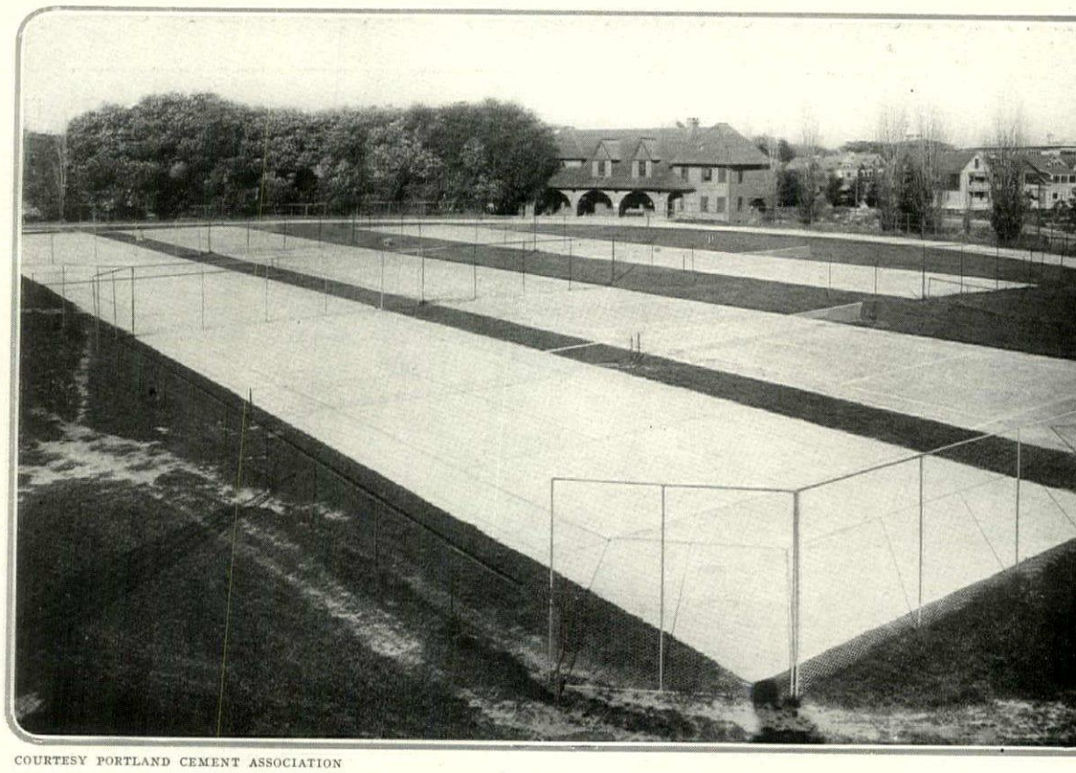


urally well drained is the best, and under no circumstances should you select a hollow into which the seepage and surface water from the surrounding higher ground will find its way. If feasible, let the court be within convenient distance of the house, so that it may come to be an open-air gathering place—almost an outdoor living-room, perhaps, with the addition of wicker or willow chairs and tea tables, a summerhouse or lawn shelter, and the dozen-odd other attractive things now made for such summer purposes as these.

Too frequently little attention is paid to the matter of the court's background. A very light background, such as a white stucco house, for example, makes it difficult to see the ball passing across it. On the other hand, crowding trees are objectionable because their foliage is too dark. The ideal background, from the players' standpoint, is plain, ordinary blue sky.

Finally, in determining the site for the court, consider the amount of labor and expense involved in constructing a thoroughly satisfactory playing area. Such items as heavy grading and filling, much blasting of rock, etc., should be avoided if possible, for they are apt to run into large figures; and any slighting of the work will show sooner or later.

Broadly speaking, there are three kinds of tennis courts in use in this country: turf, clay and concrete. Which of these will be the best for you is something you will have to judge for yourself after reading up on and considering the special characteristics of each.



COURTESY PORTLAND CEMENT ASSOCIATION

Concrete courts offer the advantage of being usable throughout the year, and of requiring little upkeep care after they have once been properly constructed. With asphaltic tops, they are widely used in California

Grass and Clay Courts

The grass court is unquestionably the most artistic of these types—provided you take care of it. It calls for the best of soil and sodding in the first instance, and frequent rolling and cutting after it is once established. For best results the court should have a 6″ layer of stones as under-drainage, covered with 18″ or more of good soil. When the latter is perfectly level and compacted by much watering and rolling, it should be given a final smoothing off preparatory to sowing the fresh grass seed or laying the sod, as the case may be. If you turn to the article on lawns on page 42 of this number you will find much that will assist you in finishing and caring for a grass tennis court. If any weeds appear, of course they must be taken out at once, root, stock and branch.

While many a good grass court is made without under-drainage, the clay court virtually requires it. An excavation 1′ deep should be made and leveled roughly with a spirit level. Then put in a 6″ layer of trap rock or other broken stones the size of an egg, and level this. In ordinary situations a drain made of two lines of terra-cotta gutters should next be laid across the court at the net line. Fill these with stones and slope them enough to carry the water off at the sides—a 2″ grade from the center to each end will be sufficient. If the soil is porous you can slope the court itself from the net to each end, giving it a grade of not over 2″ and carrying off the water in this way. Where very heavy soil is involved, several lines of drains should be laid lengthwise of the court under the trap r sloped toward and connecting with the cr drain at the net.

With the drains laid according to these s gestions, the next step is to put in a 3″ la of fine broken stone or coarse gravel, which m be pounded hard and level. On top of this g a layer of clay and sand mixture from 3″ to thick, to form the playing surface. An aver mixture consists of 1 part of sand to 4 parts clay, but this is subject to variation according the quality of the clay used. The ideal to w for is a surface not too sticky to permit water to soak through easily, nor so porous to be soft under the players' feet.

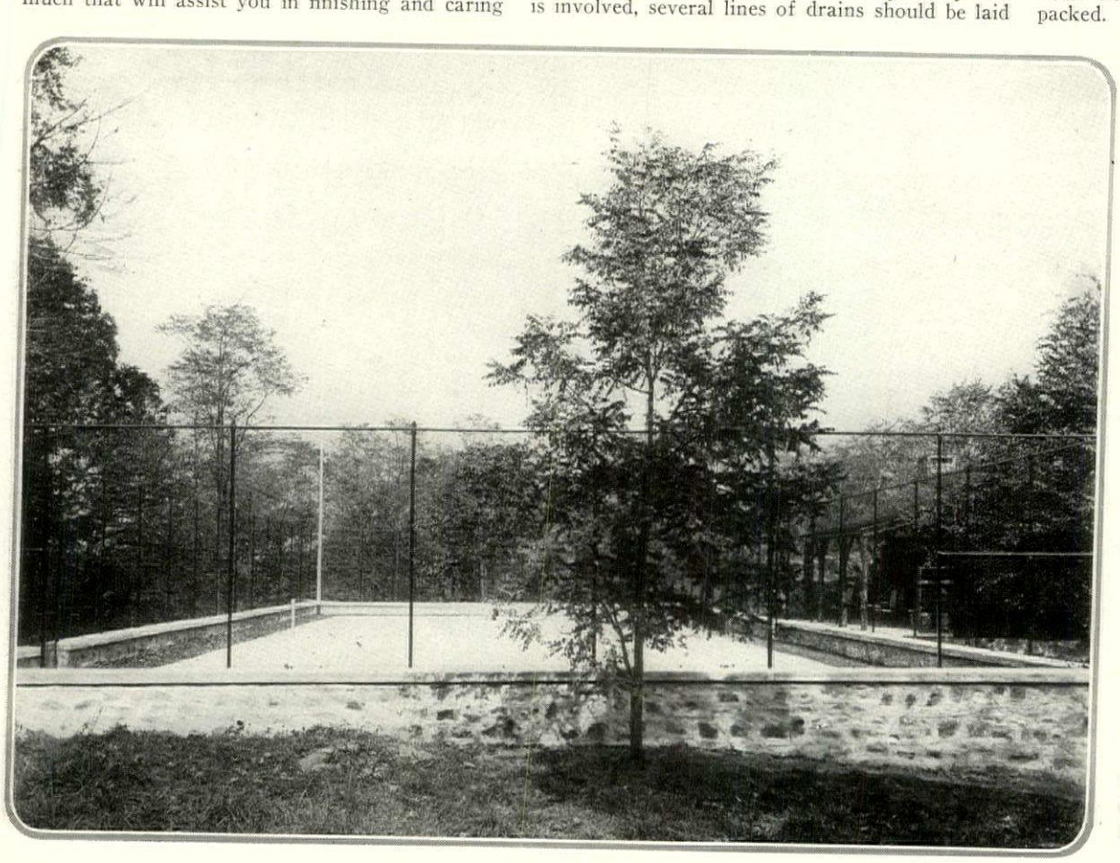
Finally, level the surface and roll it repeated If no rain falls, you will have to resort to a ficial watering in order to get the court w packed. Should worms become troublesome any time, destroy them with one of t preparations made for this purpose

Using Concrete

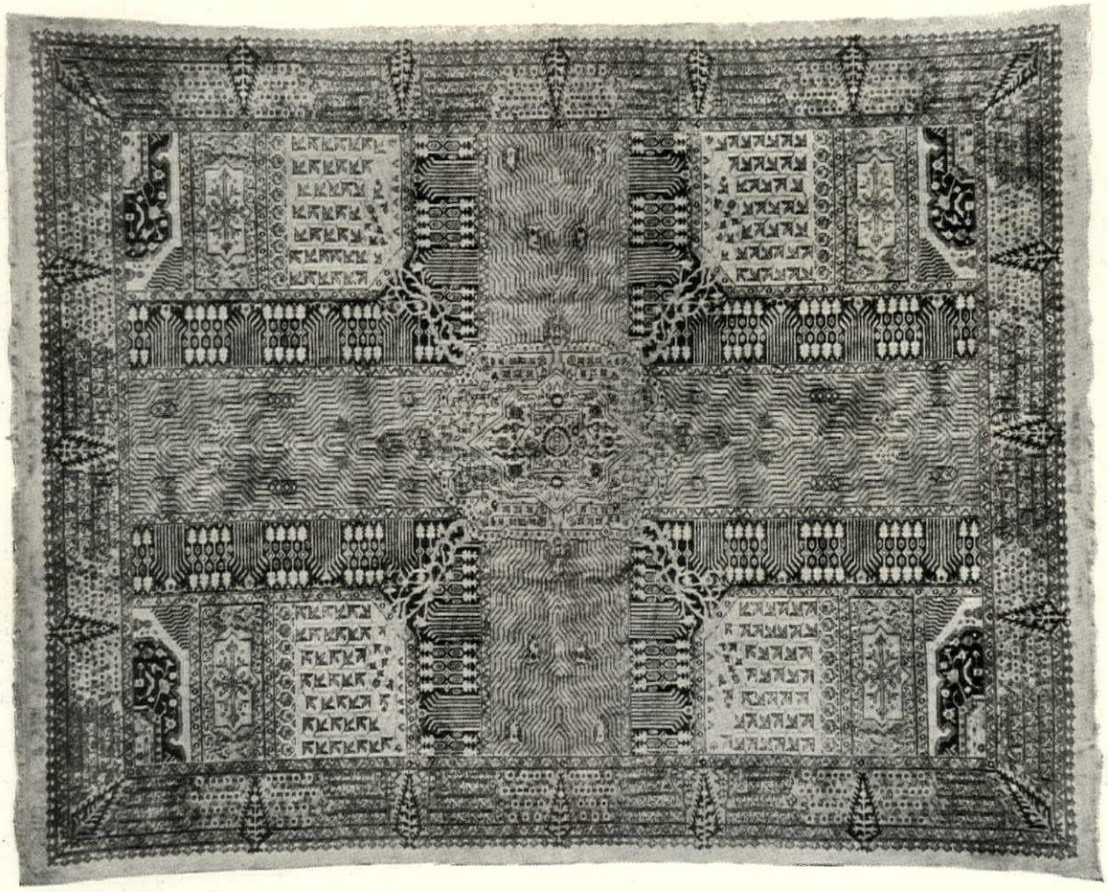
Advocates of the concrete cou so widely used in California clai amongst other things, that this m terial admits of playing througho the year. Unquestionably this is tru Again, a well-laid concrete court more permanent than one of grass clay.

One authority states that a 3″ ba of concrete, in the proportions of sack of Portland cement, 2½ cub feet of clean, coarse sand, and 4 cub feet of clean pebbles or broken ston should be laid on a 6″ drainag foundation of cinders. The concret should be machine mixed if possibl In a joint at the net line is place tarred felt ½″ thick and 4½″ wid and reinforcement in the concrete it self is furnished by wire fabri pressed into the concrete base befor the latter sets.

The surface layer of the court i made in the proportions of 1 sack o Portland cement to 2 cubic feet o clean sand, mixed stiff. Half a poun of carbon black mixed with each sac of cement will give a grey shade t the court which will be easier o the eyes than the uncolored mixture



Where the ground is uneven a court may be made by careful grading and the use of retaining walls



This illustration represents a reproduction of an Antique Persian "Garden" Carpet of the Sixteenth Century.

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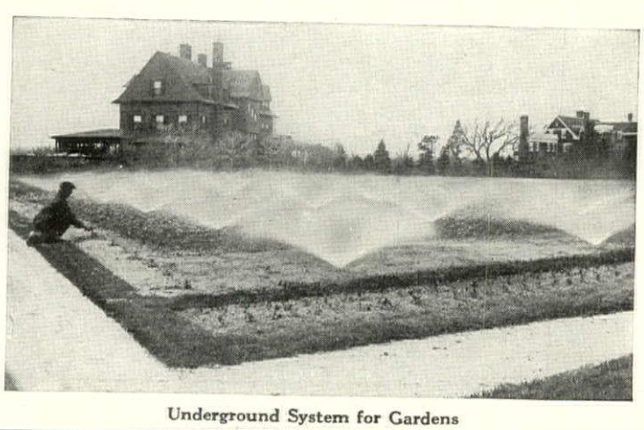
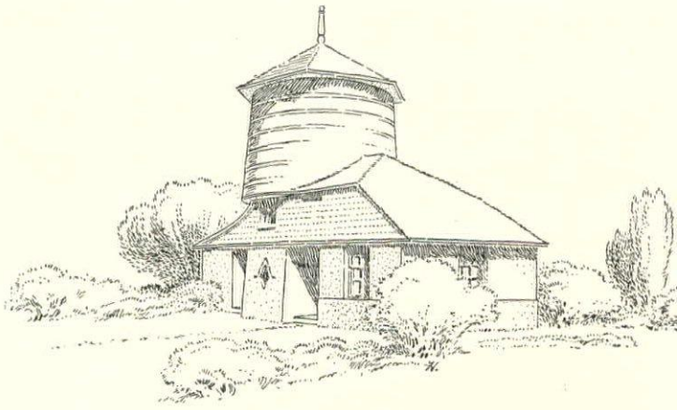
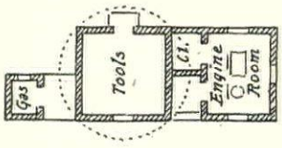


Underground System for Gardens





A successful grouping shows en house and elevated tank in a com unit. Below the tank is provide room for tools

Country House Water Systems

(*Continued from page 37*)

taken to provide the tank with some measure to guard against overflow. Such a mishap might mean much damage to the rooms and goods below. Perhaps the best form of tank is built of plank, with proper reinforcements and stay rods, and lined with tinned copper. Another way is to build the wooden structure like a mill penstock—planks laid flat, one on another, each course tarred and spiked together. Whatever form of tank may be used, it is necessary that the house structure be designed to carry the extra load involved.

Elevated Tanks

In connection with this we might mention the elevated tank, which is incorporated in a tower, forming part of the house structure and design. In a low, rambling layout, this has decided artistic possibilities and is practical and cheap where the space below the tank may be effectively used for house purposes. This form of tank is not of recent origin, and many examples may be found in the rambling structures along the coast. Where the nearness of our supply will admit of it, such treatment is not to be passed by lightly.

The isolated cousin of the foregoing is the common wooden stave tank seen so commonly in its unadorned state, elevated on a wooden framework. It is a thoroughly good article and is frost-proofed against the extremes of weather. But as a thing of beauty, it is just about four hundred per cent minus. However, by enclosing the supporting framework, preferably in some form that has interior utility, and by covering it with something that looks like a roof, it may become even attractive. This may be done at no great expense, and the further planting of shrubs will add much to the general effect. If one cared to, he might even go a step farther and enclose the tank itself. Only it should be remembered that the hoops may have to be tightened and that space for a passage should be allowed around the tank to effect this. Furthermore, a window or two and a full length door should be left for use in case of emergency.

Where we have a natural elevation to rely upon, the tank may be set on the ground, or what is better, built in it. With the former condition, we have but eliminated the supports of a stilted tank, and the structure may be enclosed in wood in a manner similar to that of the elevated form. Such a tank may be even built of masonry and have an enclosing wall of earth, between it and an outer shell of masonry. Of course, t will be an outward pressure, whic best withstood by concrete in w are incorporated sufficient reinf ing rods. It is a matter of t whether or not the lining be of brick; but under any circumstan the walls should flare on the in like a dish, to avoid difficulties case of freezing. In these detac structures, it is well to observ certain harmony with the house sign as well as a simpler rende of the same.

The underground tank may be lized when sufficient height is obt able. Its construction is that of ordinary circular cistern, and it be lined with brick domed in at top and making a permanent f for the enclosing concrete shell. is not necessary that it be enti below the ground level, as its truding portion may well be e and sod covered to the opening at top. But it is altogether desir that an interesting shrub and planting be devised to remove possibility of the mound being taken for the grave of the fam skeleton or a pet elephant.

Force and Lift Pumps

The problem of lifting water fr its source is solved by the pump. it be merely a case of lifting it fr the ordinary well for the pail trough, the ordinary unfreeza chain pump is perhaps the best ag obtainable. But our problem involv more than this, and hence we have do with the force and lift pump, which there are many good mak These pumps work on the plung principle and are the ordinary ty

For a well that is well filled, wh is termed an "air lift" pump may used to good advantage. The pri ciple is simple: air under pressure conveyed into the lower end of t water or educt pipe, which by t way does not touch the bottom the well. The small air pipe may either inside or outside the edu pipe. The pressure of the air throu the former raises the water in t latter and forces it toward its pla of ultimate delivery.

If the water in the well does n rise near the top, another sort of a pump may be used. In the "direct a pressure" pump, the water is take into air-tight tanks connected wit the educt pipe just above the surfac of the water. Compressed air applie to the water in the tanks forces through the pipe to a higher leve

In a cramped space such as a cella

(*Continued on page 60*)

Uni-Lectric Light and Power for Every Summer Home

The Uni-Lectric brings to the summer home electric current for both light and power. At a very nominal cost you can have *all the lights you need*—you can operate the various electrical conveniences and you can have 24 hours' continuous service *every day* if you wish.

Big Capacity

Because of its generous capacity for *power* and *heat* as well as light, the Uni-Lectric makes the ideal outfit for summer homes. Its capacity is sufficient for 50 lights at one time. You can operate an *electric water supply system*, electric heaters, electric irons, vacuum cleaners, electric fans, percolators, *toaster stoves, fireless cookers*, and *larger electric stoves* with capacity for breakfasts, suppers and ordinary dinners. Your large kitchen range need only be used for one meal per day.

Then without one cent of extra expense you can charge the six-volt storage batteries of your car or motor boat while using current for other purposes.

No Belts—No Batteries—110 Volt

Our patented, high speed, rotary sleeve valve engine drives the generator with such smoothness that all necessity for storage batteries is done away with and the renewal of batteries and battery up-keep cost is permanently eliminated. Moreover, with the Uni-Lectric the summer home owner is never bothered with the troublesome job of draining off and refilling batteries every fall and spring.

The Uni-Lectric generates standard 110-volt current the same as city lighting plants. Uses the same standard lamp bulbs and electrical devices used in your city home and obtainable in any electrical supply store.

Easy to Care for—Easy to Operate

The Uni-Lectric is built in one compact unit with the engine and generator direct connected. Extremely simple in construction; only 24 inches wide, 25 inches long and 42 inches high. Can be placed in *any* convenient location, no foundation required. The Uni-Lectric requires only the care and attention that you would give any machine from which you expect *many years* of service. Wiring may be so arranged that engine can be stopped by switch located in bedroom.

Because storage batteries are unnecessary with the Uni-Lectric we guarantee the *entire outfit*. It has proven its efficiency and economy by actual service in the hands of users.

WATERMAN MOTOR COMPANY
164 Mt. Elliott Avenue, Detroit, Mich.

Write today for a free copy of our big, instructive catalog on electricity for the summer home.

Uni-Lectric
GASOLINE-ELECTRIC UNIT
LIGHTING SYSTEM

Owners Like LUTTON Greenhouses

because they always get full value for the money expended; the graceful design and attractive finish are a continual source of satisfaction; built to give long service, their up-keep cost is small; and they are wonderfully productive.

ARCHITECTS endorse LUTTON construction because they appreciate the value of LUTTON improvements, judged both horticulturally and architecturally. They know that no strength has been sacrificed in making the frame-work exceptionally compact, which reduces shadows and permits every available sunbeam to reach the plants. And they know that the LUTTON CO. build greenhouses that harmonize with their surroundings.

GARDENERS are LUTTON enthusiasts because LUTTON Greenhouses are so easy to handle. The gardener is sure of excellent results because temperature and ventilation are controlled so perfectly. He is sure of getting all the light and is not troubled with dripping of condensed moisture upon plants. He appreciates the extra headroom, due to the height of the eaves, which permits disposing tall plants to better advantage.

Full particulars of LUTTON Greenhouses upon request.

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Main Office & Factory, 272-278 Kearney Ave., Jersey City, N. J.
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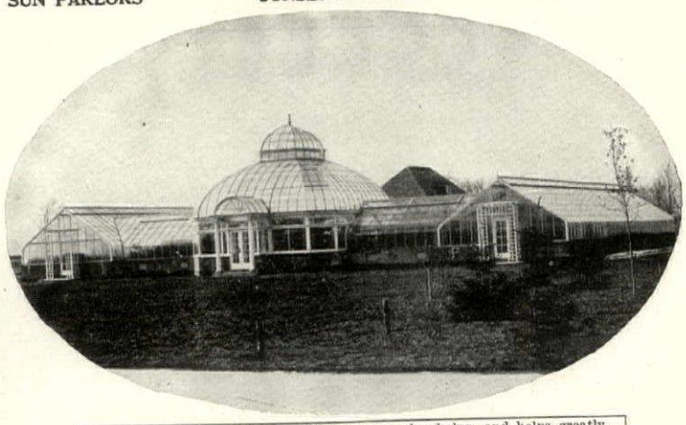
Western Office, 710 Sykes Block, Minneapolis, Minn.

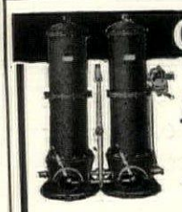
SUN PARLORS — MODERN GREENHOUSES CONSERVATORIES — COLD FRAMES



"Every one who creates or cultivates a garden helps, and helps greatly, to solve the problem of the feeding of the nations."—President Wilson.

BUILD AN ALL-YEAR GLASS GARDEN NOW

Clean, safe, freshly-filtered Water



Is a Comfort and Protection to your Home

For all household purposes—in your bath; in laundry, kitchen or pantry—its value is evident. Trouble from leaky faucets or valves is largely avoided. Bathroom fixtures, piping, boilers, etc., are protected from discoloration and accumulations.

Loomis-Manning Filters

afford the maximum of such protection because they are scientifically designed to keep in excellent working order and are made in a substantial, durable manner. They require no expert care.

These filters can be readily installed without confusion in new or old houses or buildings. The parts can be taken through an ordinary doorway. They cause no appreciable reduction in the flow of water or in pressure, and are suited for use with any kind of water supply system—either city or country. They are made in several sizes and types to meet any water conditions.

Hot Water Discoloration Eliminated

Loomis-Manning Filter Distributing Company
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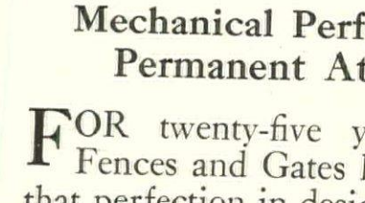
ANCHOR POST FENCES

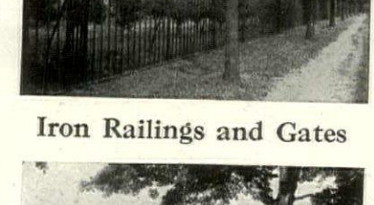
Mechanical Perfection Insures Permanent Attractiveness

FOR twenty-five years Anchor Post Fences and Gates have been noted for that perfection in design and material that stamps an article "superior quality."



Iron Railings and Gates

Woven Wire Lawn Fences



Fences for Suburban Homes

That there is real economy in purchasing of a manufacturer who rigidly maintains the highest standards of quality in his product, is demonstrated by the thousands of Anchor Post Fence installations which, after years of service, show no evidence of deterioration.

We build Standard and Special Wire and Iron Fences to meet every conceivable requirement and will gladly study your particular fence problem and submit designs and estimates.

CATALOGS

Our Catalogs describing Lawn and Garden Fences, Tennis Fences, Iron Railings and Gates, Farm Fences, Poultry, Dog and Special Enclosures will be found very helpful. Ask for the one you require.

Anchor Post Iron Works

11 Cortlandt Street, (13th floor)

NEW YORK, N. Y.

Country House Water Systems

(Continued from page 58)

where it is an object to save floor space and avoid the plunger type, the rotary pump may be used. The working principle of this pump is that of a revolving piston, which gathers up the fluid and ejects it at a central discharge. It is light, simple and compact as well as easy to operate. It may be driven by belt, wheel gearing and direct connection with an electric motor or other power plant.

As to Mechanical Power

Taking up forms of mechanical power, the first is that obtainable from the windmill. The idea is an old one and has been commercialized so as to be quite common. It should be used only in such places as are sure of considerable wind; otherwise it is practically useless. It is hardly worth while, in ordinary cases, to consider the problem from the point of view of the picturesque examples of Europe. While excellent as mere designs, their adaptation to modern practical uses involves more expense than the tinkering over of the modern article. However, there is nothing to be said against the old shapes, provided one's wallet is fat enough to finance the problem. Much has been done in this way that is excellent in many ways.

The modern windmill adjusts itself to a change of wind without any help from the outside. As an artistic problem, the light steel frame is but that of the accentuated storage tank, and its simplest treatment lies in enclosing the frame in wood, with perhaps a platform at the top, from which one may get at the machine to repair it. But there is one caution regarding the windmill, for locations where the sweep of the wind is violent: the ordinary type has a sad habit of going to pieces in a high wind, and a safer, though heavier, article is that in which the sails collapse automatically and become nonworking under dangerously severe wind conditions.

It is altogether probable that, for ordinary use, the electric motor, if electricity be handy, is as good as any power that may be had. Its handling is surely simplicity itself, and clean above all things. As such it should be excellent for use in the cellar, or any location under the general roof of the house.

When one is familiar with the workings of the gasoline engine, it is the natural power for the home pumping plant. A good motor should be simple, with its working parts exposed and easily accessible. As the horizontal type is more rigid on its base, such advantage should be considered when comparing it with certain qualities of the upright type. It is always best to choose a motor of greater power than is really necessary, so that the engine may not be subject to damage of parts in the running of it to its full capacity. Gas and exhaust pipes should be as short as possible and all bends made sweeping rather than short. As it is almost certain that some unexploded gas will escape, and as such gas is bound to ignite, sooner or later, it is safer to have the exhaust pipe strong enough to bear a pressure of seventy-five pounds per square inch. And that the noise from the exhaust may not become a nuisance, muffle the pipe in some thoroughly effective and accepted way.

The foundation for the engine might well be somewhat heavier than that called for by the drawings furnished by the maker. A good concrete bottom, tied in with scraps of wire and old iron, will form a solid mass in which to bed the anchor bolts. And as cement deteri under the action of oil, a top of iron or flagging is to be pref

It may well be remembered wherever an engine of any s to be run, dust is a nuisance. H a concrete floor with its co wearing away is not advisable. excellent arrangement consists x 3″ strips laid in a concrete and propertly anchored, with flo nailed to them.

Do not use a metal ceiling in engine house else moisture will dense and drop upon the en Allow ample space about your chinery (at least 3′), and also a lighting space. Keep your gas outside the house—for safety. stall a vent at the highest poi your engine room, so that all gases may have a chance to es

Gasoline, being easy of volat tion, involves some danger. For reason, some might prefer the engine, which is extremely simple easy to handle and care for.

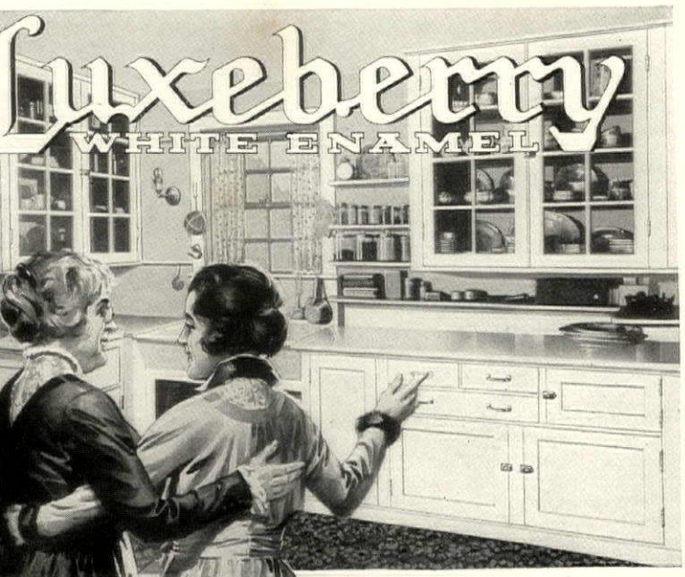
The hot air engine is an old simple contrivance, and in a prob calling for low power might wel considered. It takes up but room and owing to its simplicity be run with but little knowledge machinery. It answers many a p lem of the cheaper and simpler

Another system that has fo favor with many is that of c pressed air. There are several va tions of it, but the main idea is air and water together are fo into a good sized metal tank, wh is, of course, airtight. The press of the air upon the fluid raises i the level required. This system commonly and better used either n or in the house cellar, drawing o supply close at hand. The tank n even be buried in the ground, wh is but one of several methods of h dling it. With a hot air or elec motor, the system can be succe fully operated by a woman.

Accessories and Incidentals

The treatment of the pump-ho as an artistic feature is of cou limited by the practical conditio But to one who knows pumps a their temperamental fits of su (almost human) the building of good bench just outside the door m not be found out of place. But wha ever the design, the house should made unburnable, on the inside least. Besides this, a chemical fir extinguisher is a comforting thi to look at, even if it is never us except as an ornament.

Finally, a word regarding pipe The common conduit is of galvanize iron, and the size may range fro 1½″ to 2″. It is said to have a li of some fifteen years under grou —long enough for it to lie witho overhauling. In its laying, it shou contain no bags or hollows, an should be well below the danger o the frost. Its course should b marked by stone or cement pier that it may be easily located for re pairs, and it should be thoroughl tested for leakage before the trenc is filled in. There should be a suff cient pit at either end of this condui next the reservoir and dwelling house respectively, for installing good an substantial shut-offs. The form o the lower shut-off should allow th main pipe as well as the house uprigh to drain clear of water, should thi be necessary. As a precaution agains winter freezing in these pits, it woul be well to cover the bottom with dry leaves, above which are a couple o bags of sacking filled with stabl dressing.



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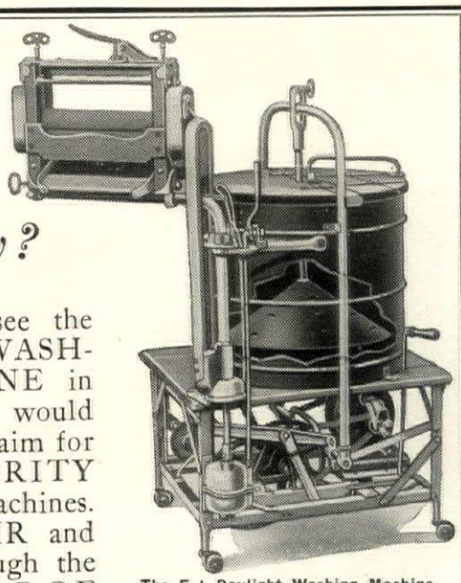

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If you could see the DAYLIGHT WASHING MACHINE in operation, you would know why we claim for it SUPERIORITY over all other machines. It PUMPS AIR and WATER, through the clothes, by FORCE and SUCTION, not only cleaning and purifying in the best sanitary way, but giving a renewed WHITENESS not obtainable by any other method.

It does this with LESS ENERGY, LESS DRUDGERY and without the disagreeable noise and clatter, common to other machines.

A handsome, sturdy, complete machine. All parts correctly machined. All metal parts GALVANIZED, with NICKEL PLATED CONTROL LEVERS.

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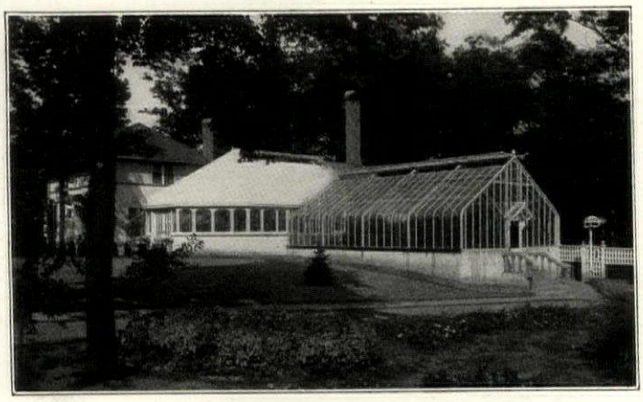

What We Have Done For Others— We Can Do For You

During the fifty years we have been building greenhouses, it has been our privilege to construct Moninger conservatories on many of the most beautiful country estates in America. And we are very proud to be able to say that in every instance, we have been able to completely satisfy the owner's demand for the best work and service obtainable.

No matter if the greenhouse you are contemplating is large or small, you will find us equally anxious to make your greenhouse a source of lasting pleasure. If you will write us of your wishes, we will be glad to submit sketches and estimates without charge, and to send you our booklet which is full of interesting information on indoor gardening.

JOHN C. MONINGER COMPANY

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Southern Pine In the Finer Homes

More and more, builders of the finer homes in this country are showing their appreciation of Southern Yellow Pine for interior finish and trim. Even when its exceptionally low cost is given no consideration, its natural beauty of grain, its fine texture, and the pleasing manner in which it takes stains, paints and enamels, make it the first choice of a constantly increasing number of the most discriminating. It is

A Wood of Striking Character

finished in its natural color; and because of its light tint, there is no shade or tone that cannot be obtained with the use of stains or paint.

You can see in most cities and towns samples of Southern Yellow Pine house trim finished in all the latest effects. A list of such exhibits will be sent you on request; and we will mail you, gratis, a booklet handsomely illustrated with color plates, giving complete directions for finishing Southern Yellow Pine.

Southern Pine Association

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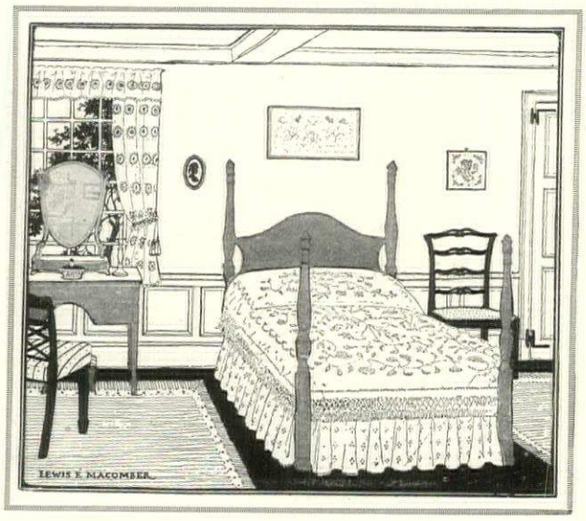
SOUTHERN PINE SERVICE ASSOCIATION



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Beautiful creamy white bedspreads with elaborate designs worked entirely by hand, and finished with hand tied fringe

We make the spreads to order without extra charge and also make pillow covers and valances. The spreads may be used on any style of bed. If preferred, they can be had without fringe, or with fringe on the sides only, for beds with footboards. The prices are from $16 to $30. We will gladly send a number of designs on approval if references are given

THE HANDWORK SHOP
57 Market St. Poughkeepsie, N. Y.

Alnwick Bedspreads are an investment, for they last a lifetime.

FLINT QUALITY HORNER SERVICE
FFF HHH
FOUNDED 1840 FOUNDED 1886

FLINT'S FINE FURNITURE

FLINT & HORNER'S SUMMER FURNITURE

For Country Homes, possesses that inimitable refinement and elegance of detail synonymous with "Flint Quality" and "Horner Service," and is designed for the homes of all, however simple or luxurious the appointments.

Particularly beautiful among the many exclusive designs in Enameled and Light Woods which we have on view, are exquisite pieces, hand-painted in reproduction of Adam and Sheraton designs, also Chinese and Japanese Lacquer.

ORIENTAL AND DOMESTIC RUGS AND DRAPERIES

FLINT & HORNER CO., INC.
20-26 WEST 36th STREET
NEW YORK

A sword-guard the manner of I chin Nobuiyé, a 1 Century met worker of rend

Sword-Guards of Feudal Japan

(*Continued from page* 25)

damascening in gold and silver on iron. The second Kanéiyé encrusted his sword-guards with copper ornament and Hirata Dōnin introduced the use of translucent enamels. The pierced work of Kinai of Echizen is supreme in its elegance of form.

New Schools of Tsuba

The close of the 17th Century gave rise to three schools of *tsuba* decoration—the Nara School, revolting against the academic style of the Gotō, the Yokoya School and the Omori School. In the work of the masters of all three of these schools, the Gotō influence may still be traced, even though such metal-workers as the Nara tried to get away from it.

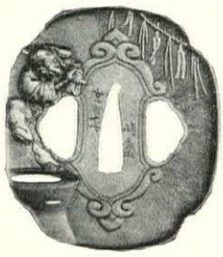
The School of Ishiguro (Yédo) of the early part of the 19th Century came to be famous for its flat incised work, introducing colored surfaces. Kano Natsuo may be mentioned as the last *tsuba* maker of distinction. The *tsuba* of the period between 1840 and 1870 were very elaborately decorated, and obviously could never have been used for their professed purpose. However, the collector will wish to acquire specimens of them, if only as examples of the marvelous handicraft of the Japanese metal-workers.

Collectors' Hints

Nearly all of the imitations of genuine old *tsuba* can be detected by holding the guard on one's finger-tip and striking it sharply with another piece of metal. The genuine will emit a bell-like sound, the imitation a dull one.

A perfect patina is always t sought for in a *tsuba*. The follo particulars are quoted by Huish Professor Roberts-Austen: "A ses show that the former (*sha* one of the principal alloys) us consists of 95% copper, 1½%- gold, 1%—2½% silver, and trac lead, iron and arsenic. The l (*shibuichi*, another important a contains from 50% to 67% of per, from 30% to 50% of silver, traces of gold and iron. The de tion of the name *shibuichi* is fourth,' which is clearly incor The precious metals are sacrifice order to produce certain results the case of *shakudo*, the gold e ling the metal to receive a rich ple coat, or patina, as it is ca when subjected to certain pick solutions; in that of *shibuichi*, alloy forcing the metal to assur beautiful silver-gray tint under same process. It is one or othe these influences which gives patina to all Japanese metals, ar is understood by their craftsme a way which no other has yet arr at. A worn-out patina will often assert itself by the aid of m handling, the moisture of the being all that is required. This sh the acuteness of the producer forming his alloy so that the for tion of the patina should be assi by a treatment which an article everyday use is sure to obtain."

(*Continued on page* 64)



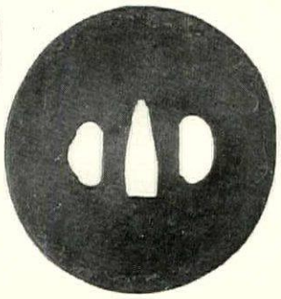
A characteristic tsuba of 18th Century design

A 19th Century damascened tsuba of wild pinks on black

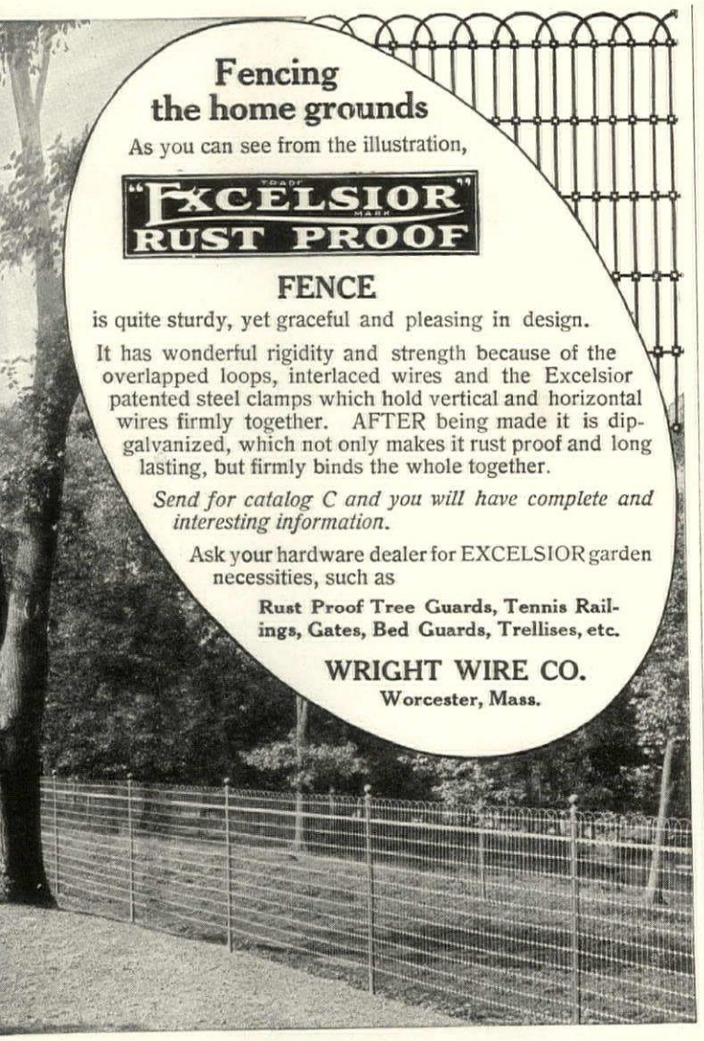
A silver tsuba t Tomoyoski. Earl 19th Century

An early 18th Century tsuba of wild duck design

The very early tsuba below shows scarcely any decoration



From the middle 18t Century, a tsuba wit monkey design



Fencing the home grounds

As you can see from the illustration,

"EXCELSIOR" RUST PROOF

FENCE

is quite sturdy, yet graceful and pleasing in design.

It has wonderful rigidity and strength because of the overlapped loops, interlaced wires and the Excelsior patented steel clamps which hold vertical and horizontal wires firmly together. AFTER being made it is dip-galvanized, which not only makes it rust proof and long lasting, but firmly binds the whole together.

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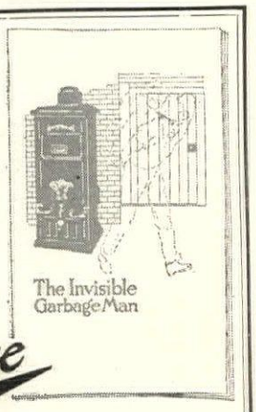

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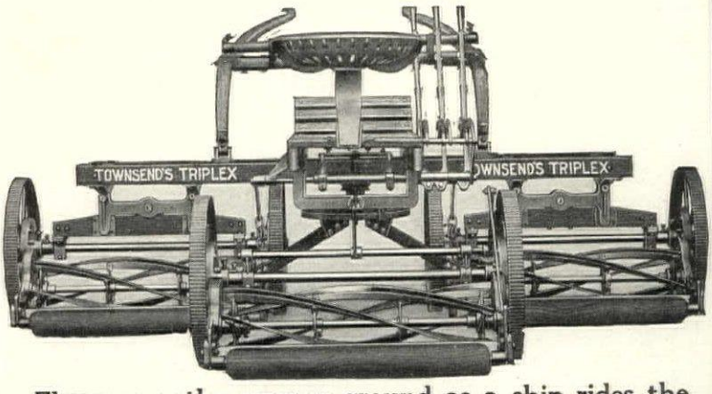

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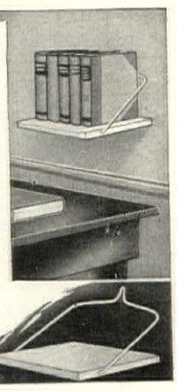

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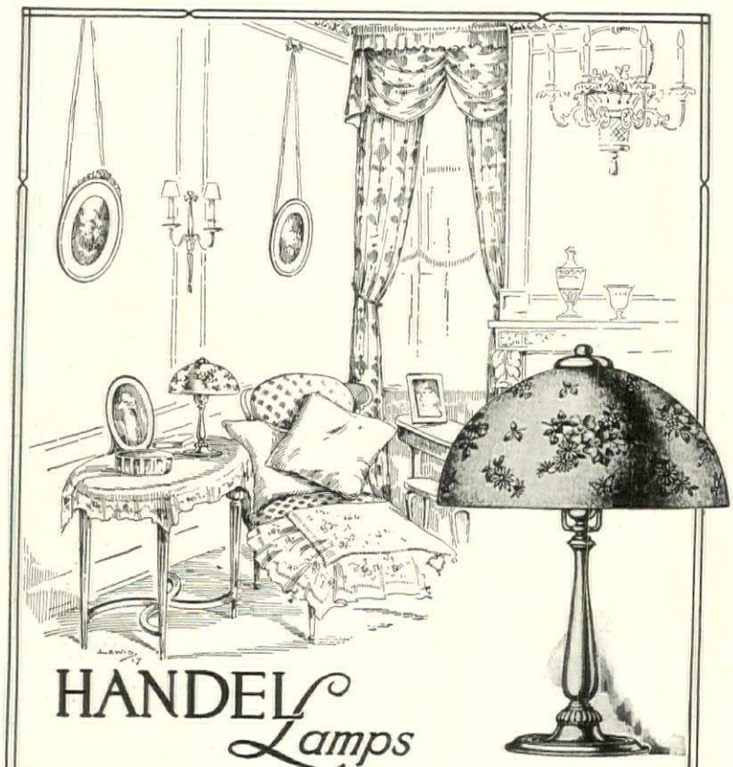

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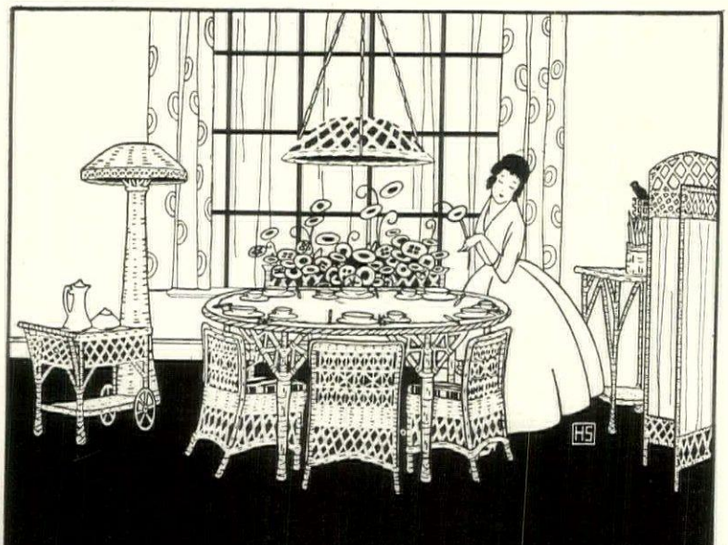

WHIP-O-WILL-O
FURNITURE COMPANY
SCRANTON PENN'A

Sword-Guards of Feudal Japan

(*Continued from page 62*)

One of the most important styles of ornamenting metal is Zogan, a process which includes damascening and is sub-divided into: *Honzogan* work where an undercutting retains the hammered-in inlay (if flush with the surface, this is called *Hirazogan*, and if it is in relief, *Takazogan*); and *Nunomezogan* work which derives its name from surface growing, incised to represent linen mesh. The second style of ornamental working is included under the names *Kebori* and *Katakiri*. With *Kebori* work the lines are finely cut, and the word designating this class of work signifies "hair lines engraved." *Katakiri* work produces engraved lines varying in depth to produce the effect of painting. The Japanese hold style in high favor. The third of ornamental metal-work is *N bori;* work in this style is carve relief, low relief being distingui by the name, *Usunikubori*, and relief, *Takabori*. The final styl *Uchidashi*. This is metal-work *poussé*, and is often to be foun combination with *Nikubori*.

The subject of Japanese m work must ever prove one of fa nation to the student or colle and even a very small collectio *tsuba* will serve to cover the gen field of representative styles. Lik many other articles of collection peal, they combine the two inter of former utility and present bea

The Best White Flowers

(*Continued from page 33*)

and as man's migrations over them; but it is beautiful wherever you find it, and there will never be discovered anything in garden design to take its place satisfactorily.

Therefore, I say, simplicity is one of the easiest things in the world to accomplish. It all lies in banishing the idea of being original, and in accepting that which is good and proven good by long-time usage. In other words, when in doubt, play up straight lines, walks that go somewhere, and borders to them.

Planting combinations that shall be picturesque are innumerable. I have prepared a tabulated list of the white flowers that are at the head of their section of the floral world, dividing them into the two classes of vertical and horizontal; in each class, into tall and low growing. In the composition of a landscape, the artist chooses horizontal or vertical to be his leading motif, using the other only as an adjunct to this and for emphasis where emphasis is needed. Do the same thing in garden composition; choose the one or the other to dominate, and introduce the other for variation. Usually it will be the horizontal—the broad and sweeping mass—that will dominate; while the vertical will furnish the exclamation points, the active principal—the watchful aspect.

Twelve Good Sorts

As to the flowers themselves, if I could have only a few white flowers, I would choose first, the foxglove; second, the giant marshmallow; third, the white Iceland poppy; fourth, the white Japanese bell-flowers (*Platycodon*); fifth, *Physostegia alba*, the false dragon's head; sixth, "Fair Maids of France" (*Ranunculus aconitifolius fl. pl.*); seventh, the knot-weed (*Polygonum compactum*); eighth, the meadow sweet; ninth, the white Stokes' aster, and tenth, the "snow queen" (*Iris Sibirica*). Then I might add a *Speciosum album* lily and some flowering spurge, which is *Euphorbia corollata*. With this even dozen, flowers all summer and a composition to delight the eye of the most exacting would be assured—providing, of course, they were well arranged.

What constitutes good arrangement, given these twelve to work with?

Let us take the first three—I have named them in the order of their merit—for a beginning, with the horizontal motif to dominate. Foxgloves are vertical. The other two are not, save as the height of the marshmallow brings its great blossoms well above the ground. The poppy will furnish a decidedly horizontal effect, if thickly massed. I would have a great many of the poppies, a clump of the marshmallow at one side their mass, and a guard of foxglo perhaps a third of the distance al from the marshmallows and back the poppy field. I would not put foxgloves at one end of the mass poppies, and the marshmallows at other; that would not be good c position, even though the lines w distinctly vertical in the one and gl ular, or all-over, in the other. P to rise at one side of such a gro never at both sides, nor in the mid

Adjoining the poppy field, kn weed would look well, with its li and foaming effect; not a great d of it, but a broad clump. Then sho come a good big mass of the J anese bell-flower, with the Stok aster before it and running on p it, and all over the width of border for a bit. After this a goo clump of the white Siberian ir next *Physostegia*, with "Fair Ma of France" in front of it—a lot both, but more of the second th of the first, so that there would space for a few more foxgloves fore the end of their mass is reach A great number of the lilies co come next, filling the entire space first, but gradually running towa the back of it, to make room for clump of meadow-sweet; m marshmallows next the lilies at t back, and a mass of *Euphorbia* fore them and extending beyond the end of the space—and there a the twelve! I am assuming t planting space to be a 3′ or 4′ bo der, extending along a walk and be seen from the walk side only. it were to be seen from both sides, would only be necessary to carry t planting of the foreground arou and make it the foreground on t opposite side as well.

Growing Habits

All of these things are easi grown—and perennial, except th foxgloves, which are biennial. A these reseed themselves, however, is not always necessary to provid seedlings each year, though I fin it more satisfactory to do so usuall for the reason that the seedlings se dom come up just where you wan them to be. Moreover, they are liabl to be choked off by the plants of th previous generation.

Instead of planting seed each yea you may simply take up as many o the seedlings that have sprung u around the parent plants as you ar going to want, set them out wher they can grow all their first summe undisturbed, then shift them to thei proper places in the autumn or earl in the next spring.

(*Continued on page 66*)

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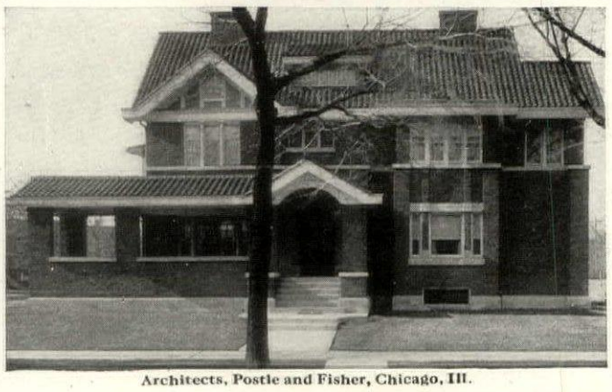

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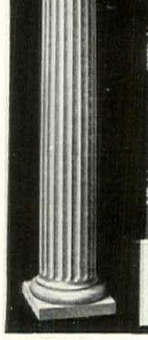

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Wire for illustrated Pergola Book No. 82.

The Best White Flowers

(*Continued from page 64*)

The marshmallows (*Hibiscus moscheutos*), giant form, will grow practically everywhere, though they are originally dwellers in swampy or marshy places. If the extremely large giant form is not wanted—they reach a height sometimes of 8′ and the flowers are as large as a plate—select the ordinary "crimson eye" variety, which has lovely pure white flowers with a crimson spot in the center. Seen at a distance, their effect is practically all white, so they can be properly included here.

Seven Good Species

The white Iceland poppy grows close to the ground, but its flower stems are about 1′ high; thus the delicate blossoms are lifted well up, where their beauty counts to the fullest degree. If it were not for the fact that the foliage of the Oriental poppy dies down after the plants have flowered, leaving a bare space of ground until it starts its fresh growth late in the summer, I should include the new white form of this in my list of indispensables. But this habit makes it undesirable for a garden border that must be on view throughout the season.

Knot-weed grows anywhere, and without any special culture; the Japanse bell-flower is very like the campanulas, but happily is truly perennial instead of being a biennial. It blossoms in midsummer usually, grows from 2′ to 30″ high, and is perfectly hardy if well mulched in the fall with litter.

Stokes' aster (*Stokesia cyanus alba*) is one of the lovliest of native plants. As its name implies, it resembles the cornflower; and its color, in the type, is lavender-blue. Be sure to specify *alba*, therefore, if ordering the white form. Its height is usually about 18″, and it will grow anywhere in a sunny place.

The false dragon's head I have never seen where I did not put it myself, save in one garden—and there they did not know what it was. Why it is not used more frequently I cannot imagine, for it is a beautiful midsummer perennial, always a highly desirable thing to have. Typically it is pink, but the white form is very lovely. It is of simplest culture. So, too, are the Fair Maids of France, which grow about 2′ high, and bloom in May and June. These, by the way, are one of the truly old-fashioned flowers; they were highly prized in the flower gardens of two hundred years ago.

Speciosum lilies like shade over the ground at their roots, but planted in a mass they will provide this for themselves. The flowering spurge is another easy-to-grow, midsummer flowering perennial, very showy and airy and decorative.

Do Not Omit the White Annuals

In addition to the permanent flowers, one may always use annuals freely with good effect. I do not believe in confining one's garden entirely to either the one or the other. Perennials and annuals should be used in proper combination, for best results; for there are almost sure to be gaps in the procession of bloom, if perennials alone are relied upon, while on the other hand, annuals cannot supply the earlier months. Moreover, there are so many flowers that we cannot do without in both sections that this would be a sufficient reason for combining them.

The lists include annuals as well as perennials. Their character of growth is, of course, divisible into the two classes—horizontal and vertical—the same as the perennial things divided.

White Flowers, Classified According to Line Effects

Vertical
Tall

Artemisia lactiflora, 3′ to 4′. of September.

Astilbe grandis, 5′. June and

Bocconia cordata, 6′ to 8′. and August.

Campanula persicifolia, giga Moerheimi; 2½′. May and June

Cimicifuga simplex, 2′ to 3′. and Oct.

Cimicifuga racemosa, 4′ to 6′. and August.

Dictamnus fraxinella, 2½′. and July.

Delphinium Chinense, album, 2 3′. July.

Digitalis gloxinæflora, alba, 2′ 3′. June.

Hollyhock, double white, 6′ to June.

Lupinus polyphyllus, albus, 3′. and June.

Physostegia Virginica, alba, July and August.

Veronica Virginica, 3′ to 4′. and August.

Low Growing

Anthericum liliastrum gigante 2′. May.

Campanula persicifolia, alba, June and July.

Chelone glabra, alba, 2′. Aug. Sept.

Heuchera virginal, 2′. July Aug.

Lysimachia clethroides, 2′. July Sept.

Horizontal

(True horizontal, or broad spreading.)

Tall

Funkia subcordata grandiflora, to 3′. Aug. and Sept.

Hibiscus Moscheutos (Crims Eye), 5′. July and on.

Iris Siberica (Snow Queen) 3 June.

Iris Florentina, alba, 2′ to 3′. M

Lilium speciosum, album, 3′. Au ust.

Papaver orientale (Perry's Whit 3′. May and June.

Platycodon grandiflorum, albu 2½′. July and Aug.

Polygonatum giganteum, 3′. M and June.

Polygonum cuspidatum, 5′. Se

Anemone Japonica, alba, 2′ to August on.

Anemone Japonica Whirlwin Same as above, semi-double.

Low Growing

Anthemis tinctoria, alba, 15″. summer.

Achillea ptarmica, fl. pl., 2′. Ju and on.

Aquilegia chrysantha, alba, 2′. Ma

Aquilegia flabellata nana, alba, 8 May.

Aster ptarmicoides, 12″. July a August.

Campanula Carpatica, alba, 8 June to October.

Centaurea montana, alba, 2′. Ju to Sept.

Chrysanthemum leucanthemum pl., 15″. June, July and on.

Dianthus deltoides, alba. Creepi —June and July.

Iberis sempervirens. Creeping May.

(*Continued on page 68*)

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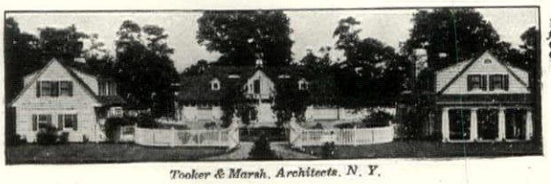

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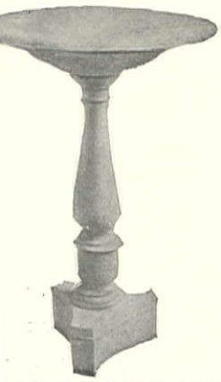

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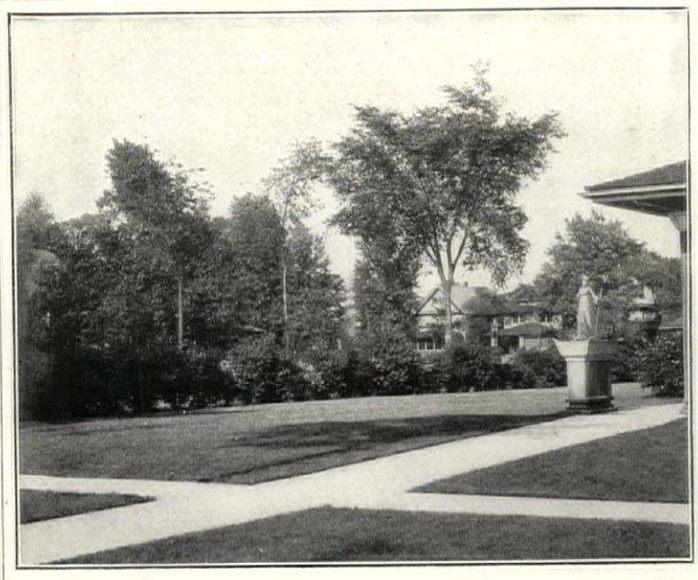

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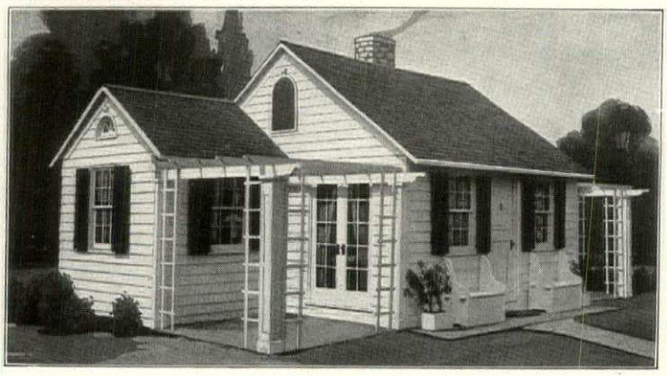

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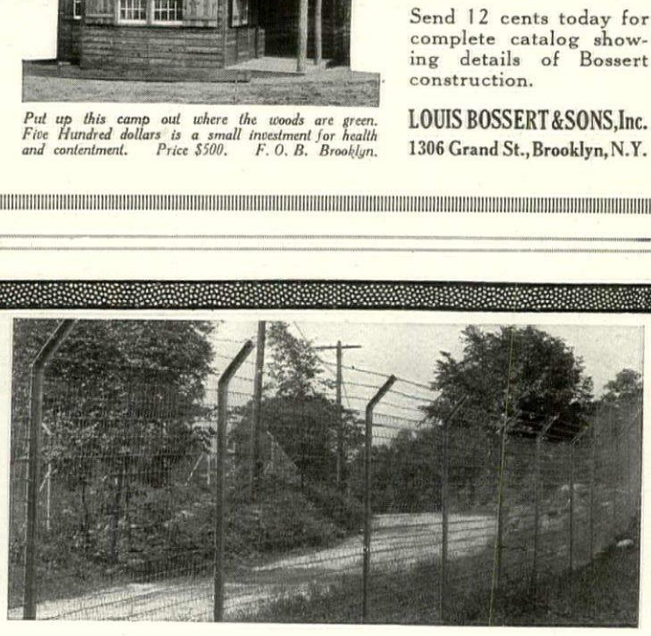

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The Best White Flowers

(*Continued from page* 66)

Iberis. Snowflake. Creeping, large-flowered—May and June.

Iris pumila, hybrid Schneekuppe, 10″. May.

Papaver nudicaule, white, 12″. Spring and on.

ANNUALS

Tall

Cosmos, extra early, 6′. End of July on.

Campanula calycanthema, white, 3′. June to July.

Campanula medium, white 3′. June.

Cleome gigantea, alba, 3½′. July and on.

Climbing nasturtium, "Pearl," 6′ to 10′. Summer to frost.

Nicotiana affinis, 2′ to 3′. June on.

Scabiosa, white, 2½′. July and on.

Sweet peas, climbing, 8′ to 10′. June on. King White is the finest of the whites.

Zinnia, giant double, 3′. June to frost.

Low Growing

Asters, to 18″. Royal, July; Ostrich Feather, Aug.; American Victoria, Aug.-Oct.; King, Aug.-Oct.; Late Branching, Sept.

Ageratum, 8″. Imperial d white. All summer, by succe sowings.

Alyssum, Little Gem, tra Spring to autumn.

Alyssum, Tom Thumb, 4″ to 6

Carnation, Marguerite strain, July on.

Centaurea imperialis, white, June.

Chysanthemum inodoratum p simum, 2′. July on.

Iberis umbellata, 1′. June o successive sowings.

Godetia, Duchess of Albany July on.

Matricaria Capensis, alba 18″. All summer.

Nasturtium, Tom Thumb "Pe about 12″. July on.

Pansy, Giant Trimardeau, w 8″. End of June on.

Petunia, Snowball, creeping. summer.

Portulaca, white, creeping. summer.

Phlox Drummondi, snow w 18″. End of June on.

Verbena, mammoth white, cr ing. July on.

Zinnia, large flowering white, Early summer on.

The Sleeping Porch By Day and Night

(*Continued from page* 35)

is done to beautify it, and day time sees it hidden behind forbidding doors while the victims spend the daylight hours in the heat of closed rooms and steam heat, taking indulgent naps upon warmed beds and wondering why they are such invalids. They spend largely upon the ventilated fencing and have nothing but the beds and their protection. The floor is dull and unvarnished—everything speaks of desolation and discomfort and that revolting bareness of "health-cure" unwillingly taken, forgetful that interest, joy, sunshine and beauty and the love of out-of-door walks, sports, gardening, etc., are quite as important as the night outdoors.

Let us dream a bit!

Apple trees silhouette in fantastic shapes against the moonlit sky, the stars are so many and the Milky Way so sparkling. Crickets make their curious little hum above the strange noiseful quiet of the whole great world, that keeps one excitedly awake those first nights in the open but which lulls one into soothing sleep when the novelty has become habit.

FLOOR, SHUTTERS AND FURNITURE

We look within, turning on the light and become abashed by the poverty of man's invention if our porch be bare and merely useful. That will never do! So we begin with the floor. It shall be of tile—a wonderful variation of glaze from rich lapis-lazuli to dull jade green. The house is of a delightful gray stucco with beam and trim of the jade color, the paling of our porch is jade green with accents of lapis-lazuli. Slipping down into its pierced depths like those of a trolley-car, or extending up to the roof, are shutters with tilted slats whose downward slant sheds snow and sleet or summer showers.

Instead of iron cots we have "day-beds" whose head and foot-pieces have the same height and outward slanting curve. These are painted with coach paint in the jade green and adorned with the lapis-lazuli stripping. The canvas night cover is color of the stucco with a painted sign of cornstalks, waving le that carry all the colors from blue to the green with touches of brighter green of the grass and t outside, and here and there w little spots of orange and ru where the corn silk shows.

MAKING IT TEMPEST PROOF

Cushions for the railing which in when it rains" are of orange blue. The chair cushions are of canvas with conventional motif corn leaves or ears done like mos And the chairs are painted wood the bed, and so are the tables. lamp is pottery with the blue gl settled richly at the base.

For day use and early even there are comfortable chairs of steamer type with foot rests tilted back and cushions and c venient deck rugs, for those who joy a sleeping-porch enjoy a d porch whereon to read and sew.

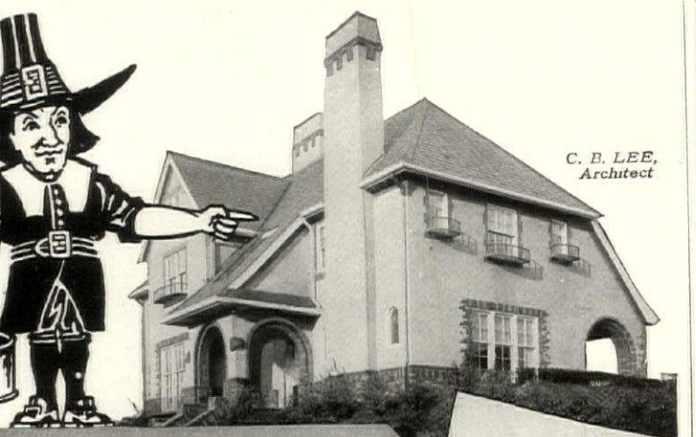
One might love to witness the ga ering storm or watch the temp breaking without, but the shelter shutters would impede the view. instead of shutters, we must ha glass windows that can be rais from within the ample paling.

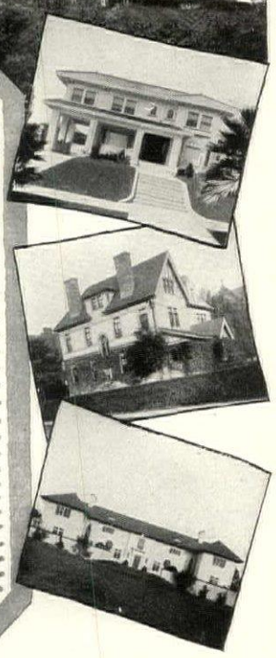
A LITTLE FRENCH PORCH

The French, who so well und stand outdoor life, make a charmi provision against wind and rain hanging adjustable curtains on ro to close as shelters or open for t view. One sleeping porch borrow this idea. Climbing upon the co structive woodwork of the whi house a heavy honeysuckle vine sh forth its fragrance, calling the hu ming birds most of the year and kee ing green perennially. It gave pr tection from the usual elements. I side the open balustrade, a hea green sail-cloth-curtain slipped alo with ring and pulley.

The day-beds, chairs and tabl

(*Continued on page* 70)





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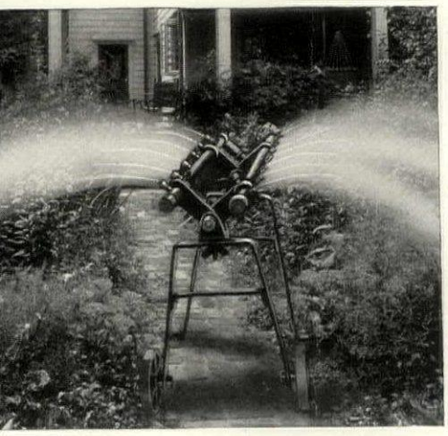

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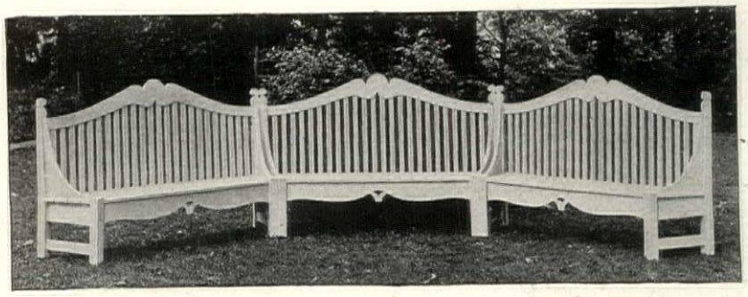

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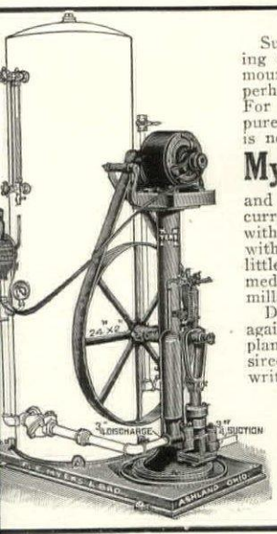

Summer is approaching—you are already thinking of vacation days at your residence up in the mountains, the bungalow along the seashore, or perhaps at your country home or some club house. For health and convenience you will want good, pure water, lots of it, and handy at all times. This is now possible with a

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"Bevo" Lavatory
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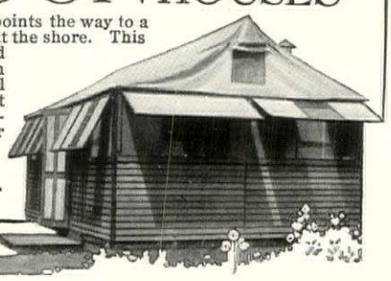


The Sleeping Porch By Day and Night

(*Continued from page* 68)

were black enameled reed enlivened with green. Cushions and day time covers, which were taken in at night, were chintz with every color of the flower garden and sunsets and sky as though in replica of the view—which no screening impeded, for no mosquitoes abided there and millers and bats were regarded as friendly.

Many a supper party and many a story read aloud from the books kept in the sail-cloth-protected reed bookcase were enjoyed by the light of the alcohol-gas lamp—the softest, most caressing known after the candle and without the flicker. Its base was a flowery Japanese vase with vellum shade. That perfection of flooring, cork composition with plain green body in 12" squares and border of numerous colors gave a velvety sound to each footfall.

As the Japanese Do

How we envied the two boys whose house being filled with summer guests, betook themselves to a commanding point in their farm and built themselves a house that was all sleeping-porch like many a Japanese only they had no sliding, paper screens nor floor sleeping-mats stead they had two beds swung the roof like hammocks with room to walk between. The sl roof projected each side at le beyond the beds, so that no rain enter. There were camp chair tables that folded against the when not in use. Simplicity re throughout.

The natural bark of the wood orated the outside. Gray army kets covered the beds. There enjoyed the variations of natur sunrises with their accompanying concerts, beginning far away one little bird sound and ending a revelry of music, and the su and moon's phases. When the howled they dreamed of the sea when the thunder storms around them they felt like Nors or heroes of old, till all the s of Nature and Art seemed reveal them and they became poets painters—or were they these b they built the porch, and was i that prompted the building?

The Final Touch to the Landscape Scheme

(*Continued from page* 47)

as the needful pressure is maintained in the supply pipe. As shown in one of the illustrations, it may be installed in a decorative basin and pedestal, but it is equally available for the ordinary pool. The one requirement in the pool is that it shall have a diameter of at least 4'.

A 1" supply pipe is large enough for the intermittent jet, with ½" for the nozzle, which latter should be hammered to a rectangular opening before attaching to the larger pipe. About twenty pounds water pressure will be ample to make the jet operate.

In making the installation, the piping is so arranged that the opening of the nozzle is about 3" below the normal surface of the water in the basin. When the water is turned on in the supply pipe (the cock for this may be located at any convenient and inconspicuous place), its force emerging from the nozzle sets up a sort of wave in the basin which, as it recedes and advances, alternately checks and releases the water issuing from the nozzle, thus causing it to spurt up for some distance above the surface at regular intervals.

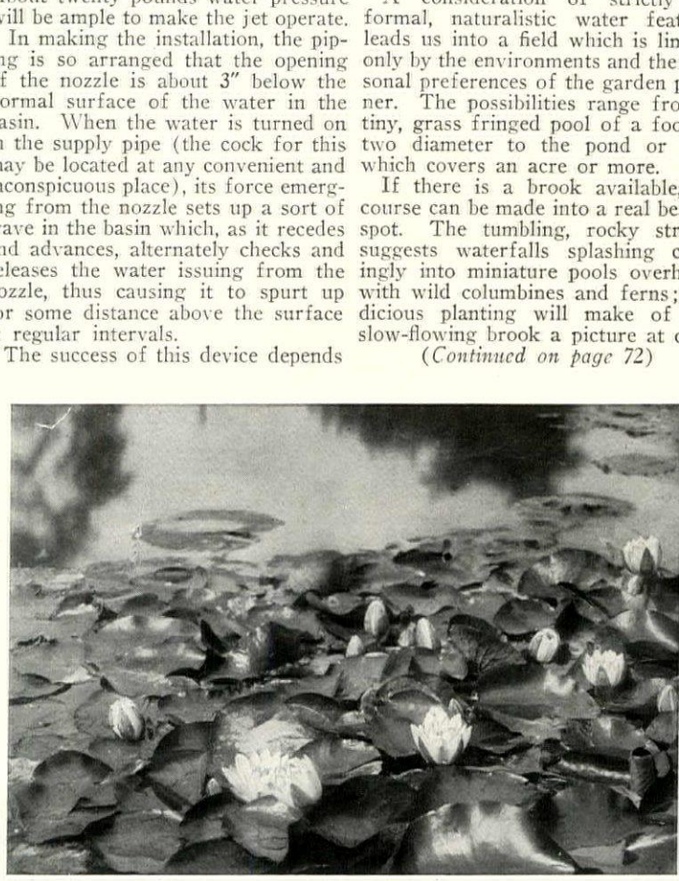
The success of this device depends on the proper relation between size of the nozzle, the depth o submersion, and the water pre available. Consequently, if the trial is unsatisfactory, do a littl perimenting with some or all of factors. Whatever combination finally decide upon, however, see the water does not spout too else it will blow about unpleasant a strong wind.

Informal Treatments

A consideration of strictly formal, naturalistic water feat leads us into a field which is lim only by the environments and the sonal preferences of the garden ner. The possibilities range fro tiny, grass fringed pool of a foo two diameter to the pond or which covers an acre or more.

If there is a brook available course can be made into a real be spot. The tumbling, rocky str suggests waterfalls splashing c ingly into miniature pools overh with wild columbines and ferns; dicious planting will make of slow-flowing brook a picture at

(*Continued on page* 72)



Water-lilies alone are ample for many a pool. The old planting rules for garden flowers apply here as well: don't use too many varieties, and don't mix them indiscriminately

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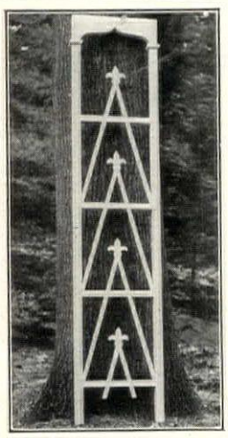

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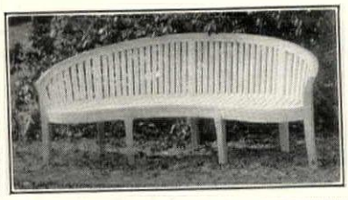

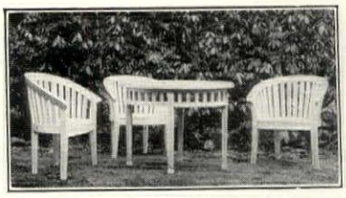

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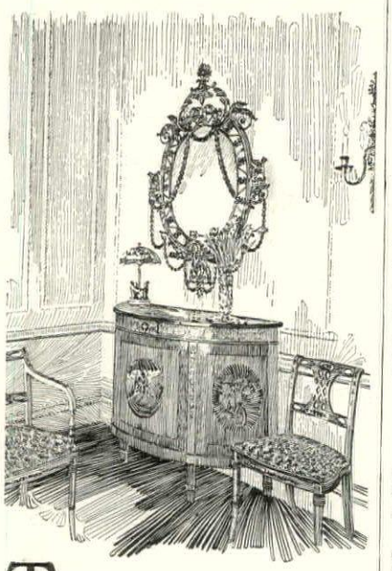

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¶ Suggestions may be gained from *de luxe prints* of well-appointed interiors, sent gratis upon request.

New York Galleries

Grand Rapids Furniture Company
INCORPORATED

34-36 West 32nd St., New York

The Final Touch to the Landscape Scheme

(*Continued from page* 70)

soothing and striking with the blue of wild iris, the green spears of their leaves, waving rushes and the gleaming flames of cardinal flowers. In some situations where the contour of the ground makes such a course possible, even a tiny streamlet can be dammed to form an artificial and yet naturalistic pool of considerable size. Again, water can sometimes be piped from the house system, or from some more distant constant supply, and brought to fill a course which has all the marks of having been put there by Nature herself.

In every case involving a flowing stream, remember this one cardinal point: the water must run down from the point at which it first becomes visible. The illusion of naturalism should be perfect, and this can never be attained unless the brook follows the course which the laws of gravity and common-sense mark out for it.

Constructing the Pool

Just as water features can be grouped under two broad heads, so are there two general methods of construction which fit most cases.

The first of these involves the use of a concrete lining and bottom, and is especially adapted to the formal pool. For a lily pool, an excavation of the desired shape is dug to a depth of 3′ or so and lined with 6″ of concrete, as shown in one of the illustrations. A rather rich mixture should be used, the right proportions being 2 bags Portland cement, 3 barrowfuls sand, and 5 barrowfuls fine broken stone. Galvanized wire netting incorporated in the concrete will strengthen it materially. If the pool is larger than 12′ or 15′, it is a good idea to use regular concrete reinforcing rods instead of the netting.

As the different sorts of water plants require different proportions of soil and water, some sort of vertical divisions should be arranged in the bottom of the pool to hold the varying depths of earth in place. These partitions may be made of concrete, but it will be simpler to let them be merely wooden frames, which can be moved if you wish to change the general arrangement of the planting.

The margin of the formal pool may be finished with bricks set in concrete, or with concrete alone. In either case, this coping should be wide enough, and raised sufficiently from the ground, to form a definite boundary. Outside of it may be a turf or gravel walk, or any other treatment sufficiently formal to meet the requirements of harmony.

As far as the underwater lining is concerned, the informal pool may be made in the same way as the formal one, or it may have no artificial lining at all. This latter treatment, of course, presupposes a soil which is sufficiently watertight to prevent the contents of the pool from vanishing overnight. Should the natural soil be porous, the bed of the pool may be "puddled"—lined to a depth of about 1′ with clay mixed into a stiff paste with water and tamped down hard. This "puddling" must be carefully and thoroughly done to be successful.

Plants and Planting

If you plan to plant water-lilies or other things in the pool, there must be no more than a very slight current in the water. In fact, the ideal lily pool has no outlet at all, the water remaining in it except as evaporation and absorption by the plants themselves remove it. The proper level in such a pool, unless it is supplied from a natural source, can readily be maintained by the aid of the garden hose, thus doing away with the necessity of installing pipes. Mosquitoes can be adequately guarded against by putting in a few goldfish, which besides devouring the insects' larvae, will be decorative in themselves. A proper balance of fish and plants will also keep the water pure.

Without a doubt the most popular plants for the water garden are the water-lilies, especially the Nymphæas and their hybrids in wonderful shades of pink, crimson, yellow and lilac.

These varieties need from 1′ to 3′ of water, and 1′ to 2′ of soil. They are especially suitable for the small or medium-sized pool and, like all water-lilies, need full sun.

The Nelumbiums are considerably larger than the Nymphæas, and consequently require more space. Their leaves stand well above the water, unlike those of the other varieties. Two feet of soil and 6″ of water should be provided for them.

Rich black muck from some pond or bog which already supports a rank growth of vegetation is excellent soil for water-lilies. Lacking it, make up a rich compost of 2/3 well-rotted cow manure and 1/3 of heavy soil.

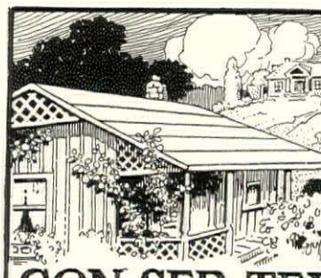
And now, how many lilies shall you plant to make your water garden a real "feature?"

My first impulse is to say "about half as many as you think you need." On second thoughts, though, I'll amend that by saying "as many as you want, so long as you do not lose sight of the fact that the water rather than the lilies is the thing that counts." Time and again one sees water gardens so crowded with leaves and blossoms that the water is scarcely visible anywhere; and this is not as it should be. Leave at least half of the water surface clear and unobstructed; it will reward you many times over with its reflections of the sky and the white summer clouds, and the little wrinkled ripples which darken it on windy afternoons.

The Decorator as Author

(*Continued from page* 45)

"THE PRACTICAL BOOK OF ARCHITECTURE," by C. Matlack Price (Lippincott, $6), is one of an authoritative series. The first part is devoted to a study of the architectural styles, the understanding of which is the necessary basis for the practice or appreciation of architecture. This is followed by a practical guide to building, in which each phase in the construction of the house is considered in detail from the architectural viewpoint. The value of this book to the lay student of architecture is obvious, yet one might presume to suggest that many of our practising architects would benefit by reading it. It is a clear exposition of the entire story of architecture authoritatively told in succinct terms and illustrated with a wealth of photographs and sketches.



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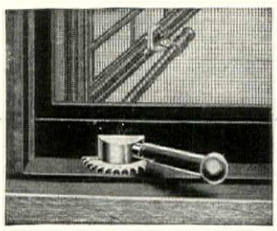

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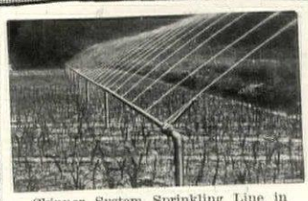

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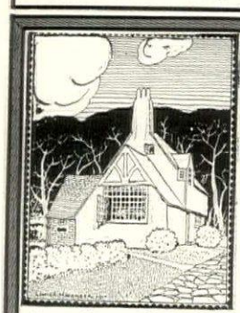

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Green Lawns and Grass Seed for Every State

(*Continued from page* 43)

The prospective lawn builder should analyze the characteristics of the common grasses adapted to his division and their function in any particular lawn. He may then with a large degree of accuracy compose a simple and successful seed mixture.

Making the Mixture

Buy each kind of seed separately and mix them at home. Secure your seed from a reputable seed house. It pays to purchase recleaned seed of good quality. It is advisable to have each variety of seed tested for purity and germination at your State experiment station. They will warn you of any adulterants in the seed and the presence of impurities.

It is also essential that all seed be of high viability. The germination report upon your sample will give you sufficient information as to the advisability of using any particular lot of seed for planting. Never buy seed one year and store it over winter in a shed or in the basement. Such seed is apt to have a low germination and be worthless for planting.

It must be the major portion of the mixture, as it should eventually take full possession. Your decision to use other grasses as supplementary additions must be guided by this. Grasses are used in combination for the following purposes:

The Reason for Mixtures

First, to act as a nurse crop for another variety. They may be used on a slope to prevent washing or simply to cover the ground for the sake of appearance, and to keep out weeds while the principle variety is establishing itself. The latter is especially true with slow growing grasses such as Kentucky blue grass. This grass takes from one to three years to establish itself and if it were not for the supplementary grasses it would be overrun by weeds before it were well started on the road to permanency.

The second use of supplementary grasses is on a lawn where a great deal of variation of soil and situation occurs. One species of grass may not grow equally well in all places. This is remedied to some extent by the sowing of several varieties in mixture so that every local bad spot will find some grass more or less adapted to it.

The third use is to reduce the cost of planting. Some seed may be too expensive to sow in large quantities alone. The original variety eventually crowds out the others as it becomes established in the lawn.

In the North, the well-known Kentucky blue grass is the best for the majority of situations

Bermuda grass is the standard sort used for successful lawns in the Southern States

As a general rule use Kentucky blue grass in preference to others in the Northern division. This applies as well to Bermuda grass in the Southern group. Choose only one of the major grasses. This is to compose the largest percentage possible in your mixture.

If the lawn does not readily fall into one of the distinct divisions of the table at the bottom of page 42, and is only partially shaded or is slightly acid, combine with the major seed other grasses suited to the specific needs. Of course, if the lawn is almost entirely shaded, is largely sand, or tends strongly toward any well defined condition, the grass best adapted to such a case may be found in the table and this had best be used as the major part of the mixture.

Two to four varieties are as many as are necessary in a mixture. Each variety should fulfill a distinct function in the lawn or it should not be included. The amount of any mixture to sow per acre is varied somewhat by the character of the land and the seed that is to be sown upon it, and the quality of the seed itself. The 1897 Yearbook of the United States Department of Agriculture gives the general rule, "Owing to the great variation in the weight per bushel of grass seeds of the same kind (due to the presence of more or less chaff), it is best to base the amount upon the weight rather than measure, and from 50 to 60 pounds of seed of fine quality is not too much to use upon an acre of ground, or 1½ pounds to 100 square yards, poor land requiring more than fertile land."

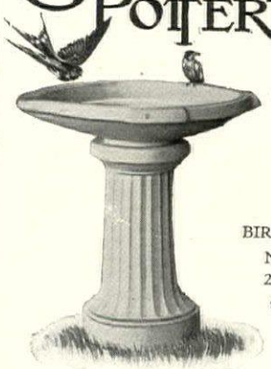
Sowing the Seed

Early spring is the best time to sow the seed. If the lawn soil has been brought in from other sources and if fresh manure has been used it will be of advantage to the owner to fallow the ground for a season or to grow some hoed crop upon it, such as corn or potatoes. This will give the large number of weed seeds in the soil an opportunity to germinate and this will greatly lessen the amount of labor that will have to be expended upon it later.

The sowing should take place during cloudy weather just preceding a rain. If the day is at all windy it is best to postpone the sowing until some quiet day when a more even distribution can be secured. To insure even sowing it is well to go over the lawn again in a direction at right angles to the first sowing and

(*Continued on page* 76)

GALLOWA POTTER



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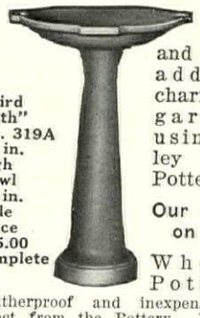

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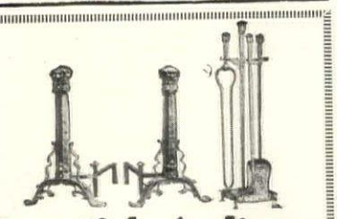

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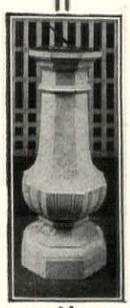

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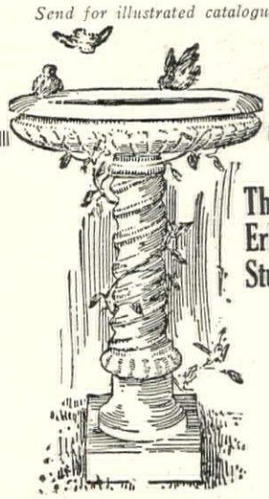

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Green Lawns and Grass Seed for Every State

(*Continued from page* 74)

make another application of the seed. The seed should be lightly raked in and then rolled.

From the time the seed is placed in the ground the lawn will require careful persistent attention.

When the grass first comes up and reaches a height sufficient to allow walking upon it without crushing the young plants into the earth, one should go carefully over the ground and remove all weeds that have appeared with the grass. Whatever weeds were present in the seed will appear at this time. They are easy to eradicate when the grass is young and sparse. Their removal also aids the new grass plants to gain a good foothold and make a rapid growth. The weeds if left to grow at this time may develop into pests that are most difficult to eradicate.

Pointers on Care

The first cuttings with the mower should not leave the young plants too closely clipped. Make a liberal allowance of height for the plants and clip only to prevent the formation of seed. Never let your grass go to seed, because seed formation has a very deleterious effect upon all lawn grasses. Later when the grass is well started the mower may be set closer and the cuttings made shorter. It is well to leave the clippings from the first few cuttings upon the lawn; in fact, it is good practice to leave all of the clippings there. They will act as a mulch and will prevent the growth of some weeds besides conserving the moisture in the soil. Later on, if desired, a grass catcher may be used upon the mower.

Do not sprinkle your lawn—water it. Sprinkling as it is usually done is a useless and a senseless practice which often causes injury to the grass and rarely does any good. If you have builded your lawn with due regard to fundamental principles the grass will grow well even during dry periods without daily sprinklings. In fact, the average rainfall in most localities is sufficient for good growth. When water must be applied, let the hose lie upon the ground and thoroughly soak one spot before moving it on to another. This thorough soaking will require that the water be left to run an hour or more upon one place.

Weeds are apt to be present in considerable quantity in your lawn. Do not put off the time for their eradication. Take active measures from the very first to remove them. If you are trying to build a lawn next to a vacant lot or near a roadside that produces a splendid crop of dandelion seed for distribution, you are waging a losing fight.

If a small amount of dandelions are present in the lawn it is best to dig them by hand. When large areas are badly infested the Minnesota Experiment Station recommends the use of iron sulphate. One and one-half pounds of iron sulphate to one gallon of water should be applied with a fine, mistlike spray. An ordinary sprinkler will not do; the mixture should be applied with a sprayer. Do not cut or water the lawn for three days after this application. The spraying should be repeated every month during the summer. Care should be taken in applying iron sulphate, because it will discolor clothing and cement walks.

Crab grass, plantains, and other weeds require persistent hand digging supplemented with ideal conditions for the growth of grass which will eventually crowd out the intruders.

The lawn should be rolled early each spring. This brings the roots into good contact with the soil and removes irregularities caused by heaving due to frost. Seed should be sown upon all spots that are not well filled with grass. This constant sowing seed even after the lawn is established is essential to the perpetuation of a thick, uniform sod. Only the pure unmixed seed of your major variety should be sown at this time.

To maintain the fertility of the lawn at a high degree, spring applications of bone meal should be made at a rate of 750 pounds per acre. Save the hardwood ashes from your fireplace and scatter them upon the lawn. In the autumn sprinkle the lawn with well rotted stable manure. This protects the lawn from alternate freezing and thawing and is a valuable source of plant food. The manure should be well rotted because fresh manure contains many viable weed seeds.

Putting The Farm On A War Footing

(*Continued from page* 17)

acres, each person so engaged here has had to look out for 9.3 acres. We have the added advantage of using more machinery, and as a matter of fact, the American farmer actually produces 1½ times as much as the man behind the plow in Germany. Nevertheless, when we are getting an average yield of under 100 bushels per acre of potatoes, while in Germany they make more than 300, it is time for us to sit up and ask "Why?"

One answer is that in Germany they use something like seven times as much fertilizer per acre as we do here. We have been depending upon South America for our nitrogen, in the form of nitrate of soda, and upon Germany for our potash, in the form of muriate and sulphate of potash, while we have done nothing to develop our own potash industry, either from the soil or from the sea where there is an unlimited amount of kelp or giant seaweed capable of being made into agricultural potash. It is conservatively estimated that the use of lime and fertilizer materials in the sections where they are most needed, would result in a 25% increase of crop production in two years. Under our present system of distribution, however, such an improvement would bring no prosperity to the farmer. It would mean ruin for thousands because of the decline in prices which would result.

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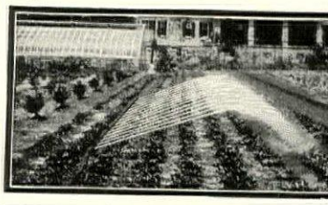

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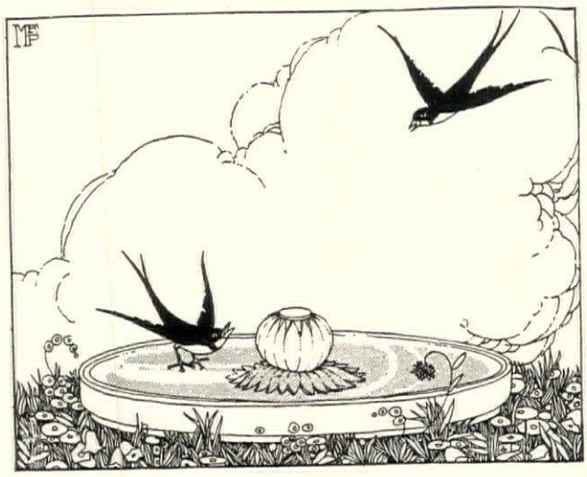

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for example, we show everything for the country house, from an iron fence to a bird-bath. There are convenient fittings for the sleeping porch, country china and glassware, clever little screens and wardrobes for the small week-end cottage, a duck of a bridge-table, a decorative couch-hammock for indoor use, and the kind of garden furniture that isn't at all disconcerted by being rained on.

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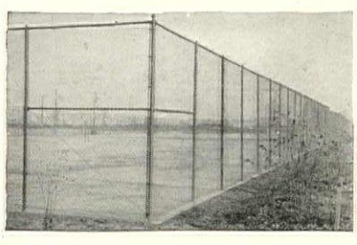

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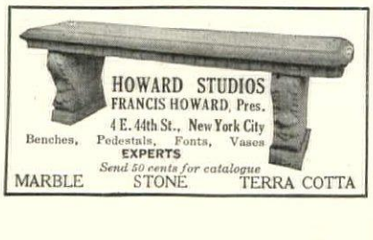

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Putting the Farm on a War Footing

(*Continued from page* 76)

disposed of, if the task were undertaken with military efficiency.

Bulletins will not effect the change. This is one thing we must realize. How long could an invaded nation exist if its only defense consisted only of notices informing the individual how to protect himself?

When the danger became acute, as in the case of the hoof and mouth disease or the brown-tailed moth, we organized and fought it collectively. Large areas in the South have within recent years been free of the dreaded cattle tick, making a progressive animal husbandry possible for the first time in generations. But this long desired result was not accomplished until it was recognized that exhorting the individual was not sufficient.

In the field of plant diseases, tremendously important and interesting work has been done in breeding and in developing disease resisting varieties. The photographs reproduced here tell their own story, one that to the layman is almost incredible. Take, for instance, the case of asparagus. In large sections the growing of asparagus on a commercial scale had to be practically given up for a number of years, until the final development of a "strain" or "variety" which was "commercially immune"—that is, immune to such an extent that it could be grown with practically no loss—made it possible to renew the industry on the very fields that had been abandoned. Soy beans, cow peas, cotton, cabbage, potatoes, watermelons and many other products have been worked with in the same way, with almost complete success from the commercial standpoint.

Early Italian Wall Furniture

(*Continued from page* 31)

preparatory *gesso;* gilding applied (with an underlying *gesso* base) to portions of carved relief without the accompaniment of other applied color, to contrast with the rest of the walnut ground; modeling in *gesso,* or rather building up a *gesso* base with repeated brush applications, over a crudely carved foundation, as a ground for subsequent polychrome and gilt enrichment; carving in bold relief, without any additional method of embellishment; flat or incised carving, for which consult Figure 6; marqueterie or inlay, and finally, paneling by means of applied mouldings.

Building Up the Color

As a preparation for the color and gold, a coating of *gesso* was first spread over the surface to be treated, and often an additional red coat was laid on before the application of gold leaf. It was an almost invariable practice to use one of these processes, and frequently both, before applying pigment or gold leaf. The practical advantages derived from this carefully laid *gesso* coat were an absolutely smooth ground free from any flaw or grain or other unevenness in the wood, ease in burnishing the gold, and a glowing freshness of color impossible of achievement in any other way. Tempera colors were used, and even today they retain their brilliance to a remarkable degree.

The process of *sgraffito* work consisted of laying an unbroken coat of gold leaf or gold leaf plant over the foundation of *gesso* and red size. Over the continuous gold ground solid tempera color was next brushed on, and then finally the gold arabesque design was revealed by scraping or scratching away the last applied layer of pigment with a wooden graver. Hence came the name *sgraffito,* or scratched.

The Credenza

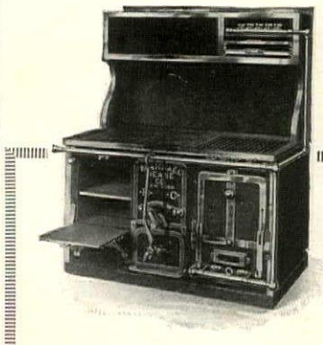
Next to the *cassone,* one of the most typical and important pieces of wall furniture was the *credenza* (Figures 11 and 12), which has two, three or four doors in front and usually, though not invariably, contained shallow drawers, corresponding to the door divisions, just under or as a part of the cornice at the top. The *credenza* were about 4′ to 4½′ high and of a proportional depth, and stood either upon a moulded plinth or upon feet. Their length varied greatly. They also varied widely in the amount of ornamentation; some were exceedingly ornate while others, especially towards the end of the 16th Century and in the 17th Century, were restrained and simple. All were dignified, and there is no piece of old Italian furniture from which we of today may learn a more profitable lesson. The *credenza* served in lieu of a sideboard and those who are fortunate enough to secure one now generally employ it in that capacity.

Cupboards and Wardrobes

A first cousin to the *credenza* is the console cupboard such as is shown in Figure 4. This is almost invariably of carved walnut, has a pair of doors in front with a drawer above them, stands on a moulded plinth and is about 3′ high by 20″ wide. Either singly or in pairs, these carved console cupboards or cabinets lend themselves agreeably to use in our modern interiors. Larger but closely akin to them are the cabinets in two stages with doors in each stage. They are broader than the consoles and of about twice their height (see Figure 5). Other cabinets larger still, with doors and drawers, were common and there were considerable variations not only in size and in some of the minor features of arrangement, but also in the manner and quantity of ornament applied. Nevertheless, the fundamental bipartite division, lower and upper, remained unchanged.

Writing Cabinets and Hangers

Writing cabinets (Figures 1 and 2), with drop fronts and numerous small drawers inside were made to be supported either on a table or on a stand especially constructed for the purpose. There were likewise other drop front writing cabinets or secretaries having a solid cupboard base with doors. Both forms were of admirable lines and it is not difficult to trace their descendants in the cabinet work of later centuries in England and in various Continental countries. The carved ornamentation was in general the same as that already noted in connection with the *cassoni.*



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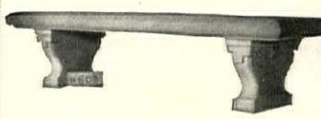

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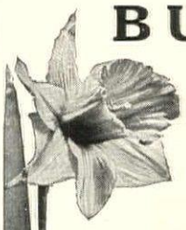
BULBS From Farr's Before July at a Lower Price



I expect to receive my Holland Bulbs this year the same as in the past. I also intend to give a *special discount of* 10 *per cent* on all orders that I receive before July 1st.

I cannot guarantee prices after July 1, but I will endeavor to fill order and allow the discount up to that time. Prices are likely to be higher in the fall than they are now; therefore send at once for my

New Bulb Catalogue

So that you can secure at reasonable prices Tulips, Daffodils, Hyacinths, Crocus, and other bulbs for fall planting.

Bertrand H. Farr
Wyomissing Nurseries Co.
106 Garfield Ave., Wyomissing, Pa.

June is the time to plant Sweet Williams, Japanese Anemones, Gaillardias, hardy Asters, Chrysanthemums, and Dahlias, for fall flowers. A complete list is given in "Farr's Hardy Plant Specialties." If you do not have a copy, write for one.

Snapdragons
Superb for bedding. Splendid plants; white, pink, yellow, crimson, $1 per dozen

Make Your Lawn Beautiful, with

Peonies
King of all Flowers

You may select from more than 100 varieties, including the magnificent new and brilliant sorts—as Therese, Marcelle Dessert, Karl Rosenfield, Baroness Schroeder, Mons. M. Cahuzac, La France and dozens of others of rarest beauty. All grown in the famous Rosenfield Peony Gardens (25 acres), by J. F. Rosenfield, originator and specialist for 33 years in Peonies.

These flowers are easy to grow and care for. Enjoy a bed of them. Send for **free** book of varieties, prices and valuable information on growth and care of Peonies.

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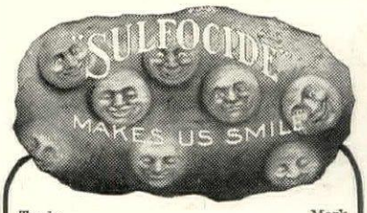

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A NEW Wells novel! The words will carry a thrill to anyone who read last year's sensational Collier serial "Mr. Britling Sees It Through."

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A scientist's answer

A letter from Dr. H. D. House, New York State Botanist and formerly professor in the Biltmore Forestry School

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Very truly yours,
H. D. HOUSE,
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